

THE American Journal of Education.

[NEW SERIES, NO. I.]

No. XXVI.—MARCH, 1862.

CONTENTS.

	PAGE.
Portrait of Matthew Vassar.....	1
I. WHAT IS EDUCATION? Defined by English Authorities.....	11
Whewell—Skakspere,	11
Ascham—Bacon—Milton—Wotton—Bolingbroke,	19
Hooker—Barrow—South—Short,	13
Hobbs—Locke—Pope,	14
Johnson—Paley—Hamilton,	15
Addison—Harris—Butler—Cluclow,	16
Farr—Burke—Ramsden,	17
Whately—Helps—Grota,	18
Cox—Ruskin,	19
Lalor—Austin,	20
II. CONVERSATIONS ON OBJECTS—A Practical Course of Elementary Instruction and Mental Development,	21
I. Exercises in Perception,	21
1. Names of Objects—Parts, Matter and Color,	21
2. Number; Ball—Frame,	24
3. Fractional Numbers, and Apparatus,	25
4. Forms; Geometrical Solids; Architectural Games,	27
II. Exercises in Observation,	28
1. Properties, Comparisons, and Classifications of Objects,	28
2. Incidental Investigations of Objects,	30
3. Gradation of Lessons,	32
III. Exercises in Reflection,	33
1. Size, Weight, Durability of Things,	33
2. Physical Geography—Geographical Box,	35
3. Political Geography,	38
4. History and Chronology,	41
5. Excursions in the Country,	43
6. Natural History, Mineralogy, and Geology, Botany, Zoölogy,	45
7. Natural Philosophy, Chemistry, Physiology, and Mental Philosophy,	49
III. MATTHEW VASSAR AND VASSAR FEMALE COLLEGE,	53
Portrait,	1
Memoir,	53
Plan of Founding a College,	54
Statement of Mr. Vassar to the Trustees of Vassar College,	55
Amount of Securities transferred,	56
IV. THE SCHOOLMASTER. By Roger Ascham,	57
Book I. The Bringing up of Youth,	57
General Manner and Temper required,	57
The aim of all Good Culture,	57
Quick Wits, and Slow, compared,	58
Deleterious Influence of excessive attention to Music,	59

	PAGE.
The Special Marks of Promise in a Child,.....	61
1. Sound and comely Physique,.....	61
2. Good Memory,.....	61
3. Love of Learning,.....	61
4. Eagerness to Labor,.....	62
5. Readiness to receive from another,.....	62
6. Boldness to ask for Knowledge,.....	62
7. Love of Praise for well-doing,.....	62
Motives to Study—Pleasure, and not Pain,.....	62
Interview with Lady Jane Grey at Brodgate,.....	63
Discipline and Obedience to be enforced kindly but firmly,.....	64
Dangers from excessive License allowed to Young Men,.....	65
Bad Example of the Nobility,.....	65
Effects of Good Education of Youth illustrated in History of Athens,.....	66
Learning by Book and at School, compared with Life,.....	67
Exercise and Pastimes to be allowed,.....	68
Influence of Good Example,.....	69
Foreign Travel except under good guardianship discouraged,.....	70
BOOK II. The Ready Way to the Latin Tongue,.....	70
Common mode of Learning Latin by Rules of Grammar discarded,.....	70
Oral and Explanatory Method preferred,.....	70
Double Translating from Latin into English and English into Latin,.....	71
Pupils to be Aided and Encouraged, and not left in doubt, &c.,.....	71
Trying to speak Latin a questionable exercise,.....	72
Discrimination of Parts of Speech, &c.,.....	72
The Diligent and Speedy Reading of the best Authors,.....	73
Six ways for the Learning of Tongues and Increase of Eloquence,.....	74
1. Translations,.....	74
2. Paraphrase,.....	74
3. Metaphrasis,.....	75
4. Epitome,.....	76
V. MISERY AND CRIME, AS AFFECTED BY INSTRUCTION IN SCHOOL,.....	77
Causes of Misery and Crime,.....	77
Idleness, Intemperance, and Improvidence,.....	82
Extravagance, Dishonesty, &c.,.....	84
Specimen Lessons in Industry, Economy, &c.,.....	89
Objections to this kind of Teaching answered,.....	92
VI. GIBBON HAWLEY,.....	94
Memoir,.....	94
Services to the Common Schools of the State of New York,.....	97
VII. GREEK VIEWS ON EDUCATION,.....	99
Extracts from "A Discourse touching the Nurture of Children." By Plutarch,....	99
1. Parentage,.....	99
2. Conditions for the highest Success in Education,.....	99
3. Power of Education and Custom,.....	100
4. Nursery and Nurses,.....	100
5. Choice of Teachers,.....	101
6. Results of Bad Teaching,.....	102
7. Benefits of Good Teaching,.....	103
8. The kind of Knowledge to be gained,.....	103
9. Power and Habit of Public Speaking,.....	104
10. Philosophy the Chief Thing,.....	104
11. Physical Education and Training,.....	105
12. Motives to Study,.....	105
13. Parental Colperation,.....	105
14. Memory,.....	106
15. Morals and Manners,.....	106
16. Parental Care to be extended beyond the period of Childhood,.....	108
17. Power of Parental Example,.....	109
Education should be universal,.....	110

	Page.
VIII. ROMAN VIEWS ON EDUCATION	111
Extracts from Quintilian's "Education of the Orator,".....	111
1. Parents should be hopeful,.....	111
2. Nurses,.....	111
3. Parents,.....	111
4. Pedagogi,.....	111
5. Instruction to be begun early, made agreeable, and given by the best Teachers,.....	111
6. Learning the Alphabet,.....	112
7. Penmanship,.....	113
8. Reading, Composition, Definitions, Pronunciation,.....	113
9. Public Schools and Family Tuition compared,.....	114
10. Disposition and Abilities of Pupils to be ascertained,.....	118
11. Management to be varied with different Pupils,.....	118
12. Relaxation and Play,.....	118
13. Corporal Punishment,.....	119
14. Grammar,.....	119
15. Reading,.....	120
16. Composition,.....	122
17. Music,.....	123
18. Geometry,.....	126
19. Choice of a Teacher in reference to Higher Studies,.....	128
20. Studies to be adapted to Peculiarities of Genius,.....	131
21. Duties of Pupils to Teachers,.....	132
22. Much and Intense Study safe when varied,.....	132
IX. SYSTEM OF NATIONAL SCHOOLS IN IRELAND	133
Varied Educational Experience,.....	133
Efforts of English Government to establish Protestant Schools for a Catholic People,.....	134
Parliamentary Commissions of Inquiry,.....	135
Board of National Education,.....	136
Results—1. National System as to Creed and Politics,.....	137
2. Professional Training of Teachers,.....	138
3. Schools of different grades,.....	143
4. School-houses,.....	147
5. Cheap and uniform Text-Books,.....	147
6. Inspection,.....	147
7. Liberal Appropriations,.....	148
Testimony as to Success in 1850,.....	150
X. INSTRUCTION IN THE GERMAN LANGUAGE	155
Preface on the Peculiarities and Difficulties of the Subject,.....	155
First Book. History of German Grammar in reference to the treatment of the German Language in the Schools, since the end of the Fifteenth Century,.....	159
I. Sixteenth Century,.....	159
Latin and German about A. D. 1500,.....	159
Ebrardt's "Method of Latinity,".....	160
"Juvenile Exercises on Donatus," &c.,.....	161
Aventinus' "New Rudimentary Grammar,".....	163
German Orthographers,.....	164
Fabian Frank,.....	164
II. Legal Provision for the Professional Education of Teachers in Prussia,.....	165
Law of 1810,.....	165
Testimony of Mr. Kay as to the Practical Operations of the Law,.....	169
Social Condition—Educational Advantages,.....	170
Teachers respected as Public Officers,.....	174
Intellectual Training, &c.,.....	186
XII. THE EARLIEST PLAN OF AN AGRICULTURAL COLLEGE IN ENGLAND	191
Hartlib's "Propositions for erecting a Collège of Husbandry in 1651,".....	191
Epistle to the Reader,.....	191
Propositions for the Advancement of Husbandry and Learning,.....	192
Plan for erecting a Collège,.....	194

	PAGE.
XIII. PLAN OF A TRADE OR INDUSTRIAL SCHOOL IN ENGLAND. By W. P., in 1847,.....	190
Necessity of an "Office of Common Address,".....	190
How to get the right sort of Teachers,.....	190
Plan for a Literary Workshop,.....	200
College of Tradesmen,.....	203
College of Health,.....	204
History of Arts and Manufactures,.....	206
History of Nature,.....	208
XIV. POLYTECHNIC SCHOOL OF BADEN, AT CARLSRUHE,.....	209
General School Course,.....	209
Special Courses,.....	209
1. Engineering Course,.....	209
2. Architectural Course,.....	209
3. Higher Technical School for Practical Chemists, Machinists, &c.,.....	210
4. Forestry School,.....	210
5. Commercial School—Commerce, Postal Service,.....	210
XV. SWISS FEDERAL POLYTECHNIC SCHOOL AT ZÜRICH,.....	211
Subjects of Instruction—classified by Schools,.....	211
1. School of Architecture,.....	211
2. School of Civil Engineering,.....	211
3. School of Industrial Mechanics,.....	213
4. School of Industrial Chemistry,.....	213
5. School of Forestry,.....	214
6. School of Philosophical and Political Science,.....	214
Apparatus, Cabinets for Instruction, Methods, &c.,.....	216
XVI. MARK HOPKINS,.....	219
Portrait,.....	219
Memoir,.....	219
List of Publications,.....	224
Extracts—Education,.....	225
Chief Excellencies of a Teacher,.....	226
Female Education,.....	226
Education in connection with Nature and Religion,.....	227
Academies,.....	227
Medical Science,.....	228
Theological Education,.....	229
Objections to Colleges,.....	229
Emotions of Taste Modified by our Views of God,.....	231
NOTE. Genealogy of the Hopkin's Family,.....	232
XVII. SYSTEM OF PUBLIC INSTRUCTION IN THE GRAND DUCHY OF BADEN,.....	233
Classical Schools,.....	233
Plan of Study,.....	237
Real Schools,.....	247
Plan of Study,.....	248
Burgher Schools,.....	248
Plan of Study,.....	249
Higher Institutions for Girls,.....	250
Orphan Asylums,.....	251
Rescue Institutions,.....	251
Institutions for Deaf Mutes and the Blind,.....	252
XVIII. GUIZOT'S MINISTRY OF PUBLIC INSTRUCTION IN FRANCE,.....	254
1. Primary Instruction,.....	254
Popularity of the Department,.....	255
Historical development,.....	257
Report of Talleyrand, Condorcet, Daunou,.....	258
Action of Napoleon,.....	259
The Charter,.....	260
Ministry of Guizot from 1832 to 1837,.....	261
Bill for Public Elementary Instruction,.....	267

	PAGE.
Fifteen years' trial,.....	275
Circular to Teachers—drawn up by M. de Remusat,.....	278
English Testimony to Success of Guizot's Labors,.....	280
XIX. RHODE ISLAND STATE NORMAL SCHOOL,.....	282
1. Preliminary Measures,.....	282
2. Professorship of Didactics in Brown University,.....	284
3. Private Normal School at Providence,.....	286
4. Rhode Island Normal School at Bristol,.....	287
XX. DANA P. COLBURN,.....	289
Portrait,.....	289
Memoir,.....	289
XXI. PUBLIC SCHOOLS AND OTHER EDUCATIONAL INSTITUTIONS IN CONNECTICUT,....	305
I. Elementary Schools,.....	305
A. Public or Common Schools,.....	305
1. Authority and Duty to Educate Children and Establish Schools,.....	306
The State,.....	306
Parents, Guardians and Employers,.....	306
Towns,.....	306
School District,.....	306
2. Officers charged with the Administration of the System,.....	307
Number and Designation,.....	307
Duties,.....	308
Compensation,.....	309
3. Funds and Taxation for the Support of Schools,.....	309
State School Fund,.....	309
Town Deposit Fund,.....	309
Local Endowments and Funds,.....	310
State Taxation,.....	310
Town,.....	310
District,.....	310
4. Internal Economy of the Common Schools,.....	310
Power of Regulation, respecting Books, left with Town Visitors,.....	310
Examination and Authorization of Teachers,.....	310
School-houses,.....	310
Graduation of Schools,.....	311
Attendance,.....	311
Sessions,.....	311
Course of Instruction,.....	311
5. Institutions and Agencies in Aid of Common Schools,.....	312
State Normal School,.....	312
Teachers' Institutes,.....	312
State Teachers' Associations,.....	312
Common School Journal,.....	312
School Libraries and Apparatus,.....	312
XXII. EDUCATIONAL MOVEMENTS AND INTELLIGENCE,.....	313
Physical Training,.....	313
Military Schools and Education,.....	313
Contents of Volume devoted to,.....	314
The Polytechnic School of France,.....	316
Contents of Volume devoted to,.....	316

BARNARD'S AMERICAN JOURNAL OF EDUCATION.

NEW SERIES.

THE AMERICAN JOURNAL OF EDUCATION, for 1862, will be published quarterly; viz., on the 15th of March, June, September, and December.

Each Number will contain at least 304 pages, and each volume will be embellished with at least two portraits, and with wood-cuts illustrative of recent improvements in buildings, apparatus and furniture designed for educational purposes.

TERMS: For a single copy, one year, or for four consecutive numbers, \$4.00

For a single number, 1.50

NOTE. All subscriptions payable in advance.

SPECIMEN NUMBERS. To persons applying for specimen numbers of *Barnard's American Journal of Education*, with a view of becoming subscribers, a copy of the last number issued will be mailed, on receipt of seventy-five cents, half the price at which single numbers are sold, and twelve cents in stamps for prepayment of postage, at the office of publication.

POSTAGE. The law applicable to postage on this quarterly periodical is as follows: "For each periodical, not exceeding three ounces in weight, to any part of the United States, one cent; for every additional ounce or fraction of an ounce, one cent. If paid quarterly or yearly in advance, at the office where the same is either mailed or delivered, then half the above rates are charged." The weight of each number of this Journal is from thirteen to seventeen ounces; making full postage from eleven to fifteen cents per number, or from forty-four to sixty cents a year; and postage paid in advance, at either end of the route, six to eight cents per number, or from twenty-two to thirty cents a year.

MAILING. The numbers of the Journal—done up in single wrapper of stout post-office paper, and, when addressed beyond New England and New York, tied up with strong twine—are mailed to the post-office address of each subscriber who has paid up his subscription for the year, on or before the day of publication of each number, viz., the 15th of March, June, September, and December. If a number does not reach its destination in due time, the fault is not with this office.

EXCHANGES. The publisher looks for the usual courtesy of a notice of the reception, and a specification at least of the *subjects of the several articles*, from those journals which have solicited an exchange; and an omission of this courtesy is supposed to indicate that no further exchange is desired.

BOUND VOLUMES. Volumes I. II. III. IV. V. VI. VII. VIII. IX. X. and succeeding volumes when completed, will be furnished, neatly and uniformly bound in cloth with an Index to each volume, and a General Index to first five volumes, at \$3.00 for single volume, and \$2.50, for two or more volumes.

MEMOIR OF PESTALOZZI, RAUMER'S GERMAN UNIVERSITIES, AND PAPERS FOR THE TEACHER. Subscribers and purchasers of complete sets of the *American Journal of Education* are advised, that nearly all of the contents of these separate works have been, or will be, embraced as articles in the Journal; and that, unless they wish to have them in a compact and convenient form, they need not purchase them.

HENRY BARNARD,

Editor and Proprietor.

Hartford, Conn.

I. WHAT IS EDUCATION?

It has been held that *education*, according to its etymology, means a *drawing out* of the faculties of the mind, not a mere accumulation of things in the memory; and this is probably substantially true; but yet the etymology of *education* is not, directly at least, *educere*, but *educare*. Again, *education* has been distinguished from *information*; which may well be done, as the word *information* is now used; but yet the word *informare*, at first, implied as fundamental an operation on the mind as *educare*; the forming and giving a defined form and scheme to a mere rude susceptibility of thought in the human mind. Again, we use the term *learn*, both of the teacher and the scholar. (Thus we have, Psalm cxix. 66 and 71, *Learn me true understanding and knowledge; and I will learn thy laws.*) But the German distinguishes these two aspects of the same fundamental notion by different forms—*lehren* and *lernen*; and in a more exact stage of English, one of these is replaced by another word, to *teach*; which, though it is not the representative of a word used in this sense in German, is connected with the German verb *zeigen*, to show, and *zeichen*, a sign or mark; and thus directs us to the French and other daughters of the Latin language, in which the same notion is expressed by *enseigner*, *insegnare*, *ensenar*; which come from the Latin *insignire*, and are connected with *signum*. W. WHEWELL.

Education is the process of making individual men participators in the best attainments of the human mind in general: namely, in that which is most rational, true, beautiful, and good . . . the several steps by which man is admitted, from the sphere of his narrow individuality, into the great sphere of humanity; by which, from being merely a conscious animal, he becomes conscious of rationality; by which, from being merely a creature of sense, he becomes a creature of intellect; by which, from being merely a seeker of pleasurable sensations, he becomes an admirer of what is beautiful; by which, from being merely the slave of impulse, he becomes a reverencer of what is right and good. W. WHEWELL.

What is a man

If his chief good and market of his time

Be but to sleep and feed?—a beast, no more.

Sure, He that made us with such large discourse.

Looking before and after, gave us not

That capability and godlike reason

To rust in us unused.

SHAKESPEARE.

In the bringing up of youth, there are three special points—truth of religion, honesty of living, and right order in learning. In which three ways, I pray God my poor children may walk.

ASCHAM. *Preface to Schoolmaster.*

Many examples may be put of the force of custom, both upon mind and body; therefore, since custom is the principal magistrate of man's life, let men by all means endeavor to obtain good customs. Certainly, custom is most perfect when it beginneth in young years; this we call education, which is, in effect, but an early custom. So we see in languages, the tone is more pliant to all expressions and sounds, the joints are more supple to all feats of activity and motions in youth than afterwards; for it is true, the late learners can not so well take up the ply, except it be in some minds that have not suffered themselves to fix, but have kept themselves open and prepared to receive continual amendment, which is exceeding rare: but the force of custom, copulate and conjoined, and collegiate, is far greater; for there example teacheth, company comforteth, emulation quickeneth, glory raiseth; so as in such places the force of custom is in his exaltation.

LORD BACON. *Essays. Custom and Education.*

I call a complete and generous education that which fits a man to perform justly, skillfully, and magnanimously all the offices, both private and public, of peace and war . . . inflamed with a study of learning, and the admiration of virtue; stirred up with high hopes of living to be brave men, and worthy patriots, dear to God, and famous to all ages.

JOHN MILTON.

The end of learning is to repair the ruins of our first parents, by regaining to know God aright, and out of that knowledge to love him, to imitate him, to be like him, as we may the nearest, by possessing our souls of true virtue, which being united to the heavenly grace of faith, makes up the highest perfection.

JOHN MILTON.

First, there must precede a way how to discern the natural inclinations and capacities of children. Secondly, next must ensue the culture and furnishment of the mind. Thirdly, the molding of behavior and decent forms. Fourthly, the tempering of affections. Fifthly, the quickening and exciting of observations and practical judgment. Sixthly, and the last in order, but the principal in value, being that which must knit and consolidate all the rest, is the timely instilling of conscientious principles and seeds of religion.

SIR HENRY WALTON.

How great soever a genius may be, and how much soever he may acquire new light and heat, as he proceeds in his rapid course, certain it is, that he will never shine in his full luster, nor shed the full influence he is capable of, unless to his own experience he adds of other men and other ages.

BOLINGBROKE.

We are born under a law : it is our wisdom to find it out, and our safety to comply with it.

DR. WHICHOTE.

Since the time that God did first proclaim the edicts of his law upon the world, heaven and earth have hearkened unto his voice, and their labor hath been to do his will. "He made a law for the rain;" he gave his "decree unto the sea, that the waters should not pass his commandment." Now, if nature should intermit her course, and leave altogether, though it were for a while, the observation of her own laws, if these principal and mother elements of the world, whereof all things in this lower world are made, should lose the qualities which they now have ; if the frame of that heavenly arch erected over our heads, should loosen and dissolve itself; if celestial spheres should forget their wonted motions, and by irregular volubility turn themselves any way as it may happen ; if the prince of the lights of heaven, which now, as a giant, doth run his unwearied course, should, as it were, through a languishing faintness, begin to stand, and to rest himself; if the moon should wander from her beaten way, the times and seasons of the year blend themselves by disordered and confused mixture, the winds breathe out their last gasp, the clouds yield no rain, the earth be defeated of her heavenly influence, the fruits of the earth pine away, as children at the withered breasts of their mother no longer able to yield them relief; what would become of man himself, whom these things do now all serve? See we not plainly, that obedience of creatures unto the law of nature is the stay of the whole world.

Of law there can be no less acknowledged, than that her seat is the bosom of God, her voice the harmony of the world ; all things in heaven and earth do her homage, the very least as feeling her care, and the greatest as not exempted from her power ; both angels, and men, and creatures of what condition soever, though each in different sort and manner, yet all with uniform consent, admiring her as the mother of their peace and joy.

RICHARD HOOKER.

The knowledge of Languages, Sciences, Histories, &c., is not innate to us ; it doth not of itself spring in our minds ; it is not any ways incident by chance, or infused by grace (except rarely by miracle) ; common observation doth not produce it ; it can not be purchased at any rate, except by that for which, it was said of old, the gods sell all things, that is, for pains ; without which the best wit and the greatest capacity may not render a man learned, as the best soil will not yield good fruit or grain, if they be not planted nor sown therein.

BR. BARROW.

Powers act but weakly and irregularly till they are heightened and perfected by their habits.

DR. SOUTH.

As this life is a preparation for eternity, so is education a preparation for this life ; and that education alone is valuable which answers these great primary objects.

BISHOP SHORT.

Forasmuch as all knowledge beginneth from experience, therefore also new experience is the beginning of new knowledge, and the increase of experience the beginning of the increase of knowledge. Whatsoever, therefore, happeneth new to a man, giveth him matter of hope of knowing somewhat that he knew not before. And this hope and expectation of future knowledge from any thing that happeneth new and strange, is that passion which we commonly call admiration; and the same considered as appetite, is called curiosity; which is appetite of knowledge. * * And from this beginning is derived all philosophy, as astronomy from the admiration of the course of heaven; natural philosophy from the strange effects of the elements and other bodies. And from the degrees of curiosity, proceed also the degrees of knowledge among men.

THOMAS HOBBES.

A sound mind in a sound body, is a short but full description of a happy state in this world.

Of all the men we meet with, nine parts often are what they are, good or evil, useful or not, by their education. It is that which makes the great difference in mankind. The little, or almost insensible, impressions on our tender infancies, have very important and lasting consequences: and there it is, as in the fountains of some rivers where a gentle application of the hand turns the flexible waters in channels, that make them take quite contrary courses; and by this little direction, given them at first, in the source, they receive different tendencies, and arrive at least at very remote and distant places.

That which every gentleman, that takes any care of his education, desires for his son, is contained in these four things: Virtue, Wisdom, Good-breeding and Learning. I place virtue as the first and most necessary of these endowments that belong to a man or a gentleman, as absolutely requisite to make him valued and beloved by others, acceptable or tolerable to himself. Without that, I think, he will be happy neither in this nor the other world.

It is virtue, direct virtue, which is the head and valuable part to be aimed at in education. All other considerations and accomplishments should give way, and be postponed, to this. This is the solid and substantial good, which tutors should not only read lectures, and talk of; but the labor and art of education should furnish the mind with, and fasten there, and never cease till the young man had a true relish of it, and placed his strength, his glory, and his pleasure in it.

As the strength of the body lies chiefly in being able to endure hardships, so also does that of the mind. And the great principle and foundation of all virtue and worth lies in this, that a man is able to deny himself his own desires, cross his own inclinations, and purely follow what reason directs as best, though the appetite lean the other way.

JOHN LOCKE. *Thoughts on Education.*

Tis education forms the common mind,
Just as the twig is bent the tree is inclined.

Pope.

Dr. Johnson and I [Boswell] took a sculler at the Temple Stairs, and set out for Greenwich. I asked him if he really thought a knowledge of the Greek and Latin languages an essential requisite to a good education. Johnson.—“Most certainly, sir; for those who know them have a very great advantage over those who do not. Nay, sir, it is wonderful what a difference learning makes upon people, even in the common intercourse of life, which does not appear to be much connected with it.” And yet, said I, people go through the world very well, and carry on the business of life to good advantage without learning. Johnson.—“Why, sir, that may be true in cases where learning can not possibly be of any use; for instance, this boy rows us as well without learning as if he could sing the song of Orpheus to the Argonauts, who were the first sailors.” He then called to the boy, “What would you give my lad to know about the Argonauts?” “Sir,” said the boy, “I would give what I have.” Johnson was much pleased with his answer, and we gave him a double fare. Dr. Johnson then turning to me, “Sir,” said he “a desire of knowledge is the natural feeling of mankind; and every human being, whose mind is not debauched, will be willing to give all that he has to get knowledge.”

DR. JOHNSON. *Boswell's Life.*

If you love learning you will have learning.

GREEK PROVERB.

Whether we provide for action or conversation, whether we wish to be useful or pleasing, the first requisite is the religious and moral knowledge of right and wrong; the next is an acquaintance with the history of mankind, and with these examples which may be said to embody truth, and prove by events the reasonableness of opinions.

Those authors, therefore, are to be read at school, that supply most axioms or prudence, most principles of moral truth and most materials for conversation; and these purposes are best served by poets, orators, and historians.

DR. JOHNSON. *Life of Milton.*

Education in the most extensive sense of the word, may comprehend every preparation that is made in our youth for the sequel of our lives; and in this sense I use it. Some such preparation is necessary for all conditions, because without it they must be miserable, and probably will be vicious, when they grow up, either from the want of the means of subsistence, or from want of rational and inoffensive occupation. In civilized life, every thing is effected by art and skill. Whence, a person who is provided with neither (and neither can be acquired without exercise and instruction) will be useless; and he that is useless, will generally be at the same time mischievous to the community. So that to send an uneducated child into the world, is injurious to the rest of mankind: it is little better than to turn out a mad dog or a wild beast into the streets.

PALEY.

The primary principle of education is the determination of the pupil to self-activity—the doing nothing for him which he is able to do for himself.

SIR WILLIAM HAMILTON. *Lecture on Metaphysics.*

I consider a human soul without education like marble in the quarry, which shows none of its inherent beauties, until the skill of the polisher fetches out the colors, makes the surface shine, and discovers every ornamental cloud, spot, and vein, that runs through the body of it.

Education, after the same manner, when it works upon a noble mind, draws out to view every latent virtue and perfection, which, without such helps, are never able to make their appearance.

If my reader will give me leave to change the allusion so soon upon him, I shall make use of the same instance to illustrate the force of education, which Aristotle has brought to explain his doctrine of substantial forms, when he tells us that a statue lies hid in a block of marble; and that the art of the statuary only clears away superfluous matter, and removes the rubbish. The figure is in the stone, and the sculptor only finds it. What sculpture is to the block of marble, education is to a human soul. The philosopher, the saint or the hero, the wise, the good or the great man, very often lie hid and concealed in a plebeian, which a proper education might have disinterred, and have brought to light. * * Those who have had the advantages of a more liberal education, rise above one another by several different degrees of perfection. For to return to our statue in the block of marble, we see it sometimes only begun to be chipped, sometimes rough hewn, and but just sketched into a human figure; sometimes we see the man appearing distinctly in all his limbs and features; sometimes we find the figure wrought up to great elegance, but seldom meet with any to which the hand of a Phidias or a Praxiteles could not give several nice touches and finishings.

JOSEPH ADDISON.

Nothing is more absurd than the common notion of instruction; as if science were to be poured into the mind like water into a cistern, that passively waits to receive all that comes. The growth of knowledge resembles the growth of fruit: however external causes may in some degree coöperate, it is the internal vigor and virtue of the tree that must ripen the juices to their just maturity.

JAMES HARRIS. *Hermes.*

Human creatures, from the constitution of their nature, and the circumstances in which they are placed, can not but acquire habits during their childhood, by the impressions which are given them and their own customary actions; and long before they arrive at mature age these habits form a general settled character. And the observation of the text—"Train up a child in the way he should go; and when he is old he will not depart from it"—that the most early habits are generally the most lasting, is likewise every one's observation.

BISHOP BUTLER.

Organic structure, temperament, things affecting the senses or bodily functions, are as closely linked with a right play of the faculties, as the material and condition of an instrument of music with that wonderful result called melody.

W. B. CLULOW.

The general principles of education are the same, or nearly the same in all ages, and at all times. They are fixed unalterably in the natural and moral constitution of man. They are to be found in our affections and passions, some of which must be controlled and some cherished in every state of manners, and under every form of society. From the right apprehensions of them, we discover "the way in which a child ought to go," and by the right use of them "when he is young," we shall qualify him, "when old," for not departing from it.

In promoting the happiness of our species, much is effected by authority of legal restraint, and much by public instruction from the pulpit. But education, in its large and proper sense, [of not merely the inculcation of moral precepts and religious doctrine, but a system of discipline applied to the hearts and lives of young persons,] may boast even of superior usefulness. It comes home directly to "the bosoms and business of" young persons, it rectifies every principle and controls every action; it prevents their attention from being relaxed by amusement, dissipated by levity, or overwhelmed by vice; it preserves them from falling a prey to the wicked examples of the world when they are in company, and from becoming slaves to their own turbulent appetites when they are in solitude. It is not occasional or desultory in its operation; on the contrary, it heaps "line upon line, and precept upon precept;" it binds the commands of religion, for a "sign upon the hands of young men, and frontlets between their eyes;" it is calculated to purify their desires and to regulate their conduct, when they "sit in the house, and when they walk in the way;" when they "lie down in peace to take their rest," and when they "rise up" to "go forth to their labor."

DR. PARR.

What is the education of the generality of the world? Reading a parcel of books? No. Restraint of discipline, emulation, examples of virtue and justice, form the education of the world.

EDMUND BURKE.

The heart of a nation comes by priests, by lawyers, by philosophers, by schools, by education, by the nurse's care, the mother's anxiety, the father's severe brow. It comes by letters, by silence, by every art, by sculpture, painting, and poetry; by the song on war, on peace, on domestic virtue, on a beloved and magnanimous king; by the Iliad, by the Odyssey, by tragedy, by comedy. It comes by sympathy, by love, by the marriage union, by friendship, generosity, meekness, temperance; by virtue and example of virtue. It comes by sentiments of chivalry, by romance, by music, by decorations and magnificence of buildings; by the culture of the body, by comfortable clothing, by fashions in dress, by luxury and commerce. It comes by the severity, the melancholy, the benignity of countenance; by rules of politeness, ceremonies, formalities, solemnities. It comes by rights attendant on law, by religion, by the oath of office, by the venerable assembly, by the judge's procession and trumpets, by the disgrace and punishment of crimes, by public fasts, public prayer, by meditation, by the Bible, by the consecration of churches, by the sacred festival, by the cathedral's gloom and choir.

Education may be compared to the grafting of a tree. Every gardener knows that the younger the wilding-stock that is to be grafted is, the easier and the more effectual is the operation, because, then, one scion put on just above the root, will become the main stem of the tree, and all the branches it puts forth will be of the right sort. When, on the other hand, a tree is to be grafted at a considerable age, (which may be very successfully done,) you have to put on twenty or thirty grafts on the several branches; and afterwards you will have to be watching, from time to time, for the wilding shoots which the stock will be putting forth, and pruning them off. And even so, one whose character is to be reformed at mature age, will find it necessary not merely to implant a right principle once for all, but also to bestow a distinct attention on the correction of this, that, and the other bad habit.

But it must not be forgotten that education resembles the grafting of a tree in this point, also, that there must be some affinity between the stock and the graft, though a very important practical difference may exist; for example, between a worthless crab and a fine apple. Even so, the new nature, as it may be called, superinduced by education, must always retain some relation to the original one, though differing in most important points. You can not, by any kind of artificial training, make any thing of any one, and obliterate all trace of the natural character. Those who hold that this is possible, and attempt to effect it, resemble Virgil, who (whether in ignorance or, as some think, by way of poetical license) talks of grafting an oak on an elm: *glandæque suecæ fregere sub ulmæ*.

ARCHBISHOP WHATELY. *Annotations on Bacon's Essays.*

What a man has learnt is of importance, but what he is, what he can do, what he will become, are more significant things. Finally, it may be remarked, that to make education a great work, we must have the educators great; that book learning is mainly good, as it gives us a chance of coming into the company of greater and better minds than the average of men around us; and that individual greatness and goodness are the things to be aimed at, rather than the successful cultivation of those talents which go to form some eminent membership of society. Each man is a drama in himself: has to play all the parts in it; is to be king and rebel, successful and vanquished, free and slave; and needs a bringing up fit for the universal creature that he is.

A. HELPS. *Friends in Council.*

Education is the placing of the growing human creature in such circumstances of direction and restraint, as shall make the most of him, or enable him to make the most of himself.

JOHN GROTE.

A liberal education is an education in which the individual is cultivated, not as an instrument towards some ulterior end, but as an end unto himself alone; in other words, an education in which his absolute perfection as a man, and not merely his relative dexterity as a professional man, is the scope immediately in view.

SIR WILLIAM HAMILTON.

Education does not commence with the alphabet; it begins with a mother's look, with a father's nod of approbation, or sign of reproof; with a sister's gentle pressure of the hand; a brother's noble act of forbearance; with handful of flowers in green dells, or hills, and daisy meadows; with birdsnest admired, but not touched; with creeping ants and almost imperceptible emmets; with humming bees, and glass bee hives; with pleasant walks in shady lands, and with thoughts devoted, in sweet and kindly tones and words, to nature, to beauty, to acts of benevolence, to deeds of virtue, and to the source of all good—to God himself.

DR. RAMSDEN.

He [man] would look round upon the world without, and the thought would arise in his mind—"Where am I?" He would contemplate himself, his form so curious, his feelings so strange and various; he would ask—"What am I?" Then reflection would begin to stir within him, and reviewing the world without and within, and pondering upon the mystery of existence, he would exclaim—"Why am I?" And the replies to these three questions compose the entire circle of human knowledge, developed in its natural order.

W. COX. *The Advocate, his Training.*

I believe, that what it is most honorable to know, it is also most profitable to learn; and that the science which it is the highest power to possess, it is also the best exercise to acquire.

And if this be so, the question as to what should be the material of education, becomes singularly simplified. It might be matter of dispute what processes have the greatest effect in developing the intellect; but it can hardly be disputed what facts it is most advisable that a man entering into life should accurately know.

I believe, in brief, that he ought to know three things:

First. Where he is.

Secondly. Where he is going.

Thirdly. What he had best do under those circumstances.

First. Where he is.—That is to say, what sort of a world he has got into; how large it is; what kind of creatures live in it, and how; what it is made of, and what may be made of it.

Secondly. Where he is going.—That is to say, what chances or reports there are of any other world besides this; what seems to be the nature of that other world; and whether, for information respecting it, he had better consult the Bible, Koran, or Council of Trent.

Thirdly. What he had best do under those circumstances.—That is to say, what kind of faculties he possesses; what are the present state and wants of mankind; what is his place in society; and what are the readiest means in his power of attaining happiness and diffusing it. The man who knows these things, and who has had his will so subdued in the learning them, that he is ready to do what he knows he ought, I should call educated; and the man who knows them not, uneducated, though he could talk all the tongues of Babel.

RUSKIN.

Education does not mean merely reading and writing, nor any degree, however considerable, of mere intellectual instruction. It is, in its largest sense, a process which extends from the commencement to the termination of existence. A child comes into the world, and at once his education begins. Often at his birth the seeds of disease or deformity are sown in his constitution—and while he hangs at his mother's breast, he is imbibing impressions which will remain with him through life. During the first period of infancy, the physical frame expands and strengthens; but its delicate structure is influenced for good or evil by all surrounding circumstances—cleanliness, light, air, food, warmth. By and by, the young being within shows itself more. The senses become quicker. The desires and affections assume a more definite shape. Every object which gives a sensation; every desire gratified or denied; every act, word, or look of affection or of unkindness, has its effect, sometimes slight and imperceptible, sometimes obvious and permanent in building up the human being; or, rather, in determining the direction in which it will shoot up and unfold itself. Through the different states of the infant, the child, the boy, the youth, the man, the development of his physical, intellectual, and moral nature goes on, the various circumstances of his condition incessantly acting upon him—the healthfulness or unhealthfulness of the air he breathes; the kind, and the sufficiency of his food and clothing; the degree in which his physical powers are exerted; the freedom with which his senses are allowed or encouraged to exercise themselves upon external objects; the extent to which his faculties of remembering, comparing, reasoning, are tasked; the sounds and sights of home; the moral example of parents; the discipline of school; the nature and degree of his studies, rewards and punishments; the personal qualities of his companions; the opinions and practices of the society, juvenile and advanced, in which he moves; and the character of the public institutions under which he lives. The successive operation of all these circumstances upon a human being from earliest childhood, constitutes his education;—an education which does not terminate with the arrival of manhood, but continues through life,—which is itself, upon the concurrent testimony of revelation and reason, a state of probation or education for a subsequent and more glorious existence.

JOHN LALOR. *Prize Essay.*

The appropriate and attainable ends of a good education are the possession of gentle and kindly sympathies; the sense of self-respect and of the respect of fellow-men; the free exercises of the intellectual faculties; the gratification of a curiosity that "grows by what it feeds on," and yet finds food forever; the power of regulating the habits and the business of life, so as to extract the greatest possible portion of comfort out of small means; the refining and tranquilizing enjoyment of the beautiful in nature and art, and the kindred perception of the beauty and nobility of virtue; the strengthening consciousness of duty fulfilled, and, to crown all, "the peace which passeth all understanding."

SARAH AUSTIN.

Education does not mean merely reading and writing, nor any definite power, consisting of some intellectual instruction. It is to the last, and even a process which extends from the commencement to the end of life. A child comes into the world and he has to learn to live. He has to learn to think, to feel, to act, to be a man. He has to learn to be a man, and while he is learning to be a man, he is learning to be a child. He is learning to be a child, and while he is learning to be a child, he is learning to be a man.

II. CONVERSATIONS ON OBJECTS.

A PRACTICAL COURSE OF ELEMENTARY INSTRUCTION IN LANGUAGE, AND FOR MENTAL DEVELOPMENT.

CONVERSATIONS ON OBJECTS—commencing with the earliest indications of the infant faculties, and proportioned to the progressive development of reason which varies in different individuals, will be found not only to be an excellent substitute for the irksome and mechanical processes of almost all our elementary schools, but the best vehicle of diversified knowledge and the ground-work of mental discipline, while it is introducing children to a practical acquaintance with their native tongue. We shall adopt in the discussion of this subject a chapter from C. Marcel's admirable treatise on Language.*

Although the order in which the various conversations on objects have been introduced may be modified according to circumstances, it must not be regarded as altogether a matter of indifference; for we have endeavored to conform to that which nature follows in gradually inuring the mind to habits of investigation. She imperatively enjoins that the first efforts of the child should be directed to the improvement of those powers by which he may form clear and correct notions of things. He should therefore be made to pass progressively through the exercises in perception, observation, reflection, and reasoning.

Another rule which should be strictly adhered to is, that, whenever a topic, an exercise, or a branch of information, acknowledged to be useful, has been entered upon, it should be occasionally repeated, until the children have a clear insight into the subject brought before them, or until the object proposed from it has been attained. It should also be borne in mind that the following course, although intended as a preparation for the scholastic instruction of boys, is equally suitable to girls; for, until the age of twelve, the intellectual education should be the same.

SECT. I.—EXERCISES IN PERCEPTION.

1. Names of objects, their Parts, Matter, and Color.

From the moment that a child articulates distinctly, various famil-

* "Language as a Means of Mental Culture."—London. 2 vols.

lar objects should be offered to his notice, and their use explained; their names being, at the same time, clearly uttered for him, he should be made to repeat them slowly and aloud. But he must not be forced into premature efforts to speak, lest he should acquire habits of indistinct and defective utterance. Premature walking is not more injurious to the organs of motion than is premature speaking to the vocal organs. In order also to guard against fatiguing him by a dry repetition of words, the instructor should enliven the exercise by making, in plain language and in a playful manner, some simple observations on the nature and use of the things which he is called upon to name.

This exercise should, at first, be limited to a few objects at one time, and the same things should be repeatedly presented to him associated with their names, until he perfectly knows these names. His vocabulary should be gradually extended by the introduction of new objects which he is made to observe and name, such as articles of dress, food, furniture, every thing which he can hold in his hand, or which may be seen either from the window or out of doors. This mode of proceeding will soon put a young child in possession of a considerable number of useful nouns. It is a triple exercise in perception, articulation, and memory, which must, from the variety of objects and the movement required in passing from one to the other, be more interesting to the child, as it certainly is more profitable at this age, than the ordinary practices of conning for months over the same six-and-twenty, *to him*, unmeaning letters, reading nonsensical trash, or learning by rote the unconnected words of a spelling-book or dictionary.

As the child's intellect opens and becomes capable of examining objects minutely, of distinguishing their resemblances and differences, of noticing their *parts*, their *matter*, their *color*, their *form*, and their *number*, his attention should be successively directed to all these points. Thus will his mind be early brought in contact with the external world, and be duly exercised by ascribing to every object of sense its qualities and peculiar condition. He will also easily remember the words, when the ideas they signify are once clearly apprehended. A correct acquaintance with the meaning and application of words must not be deemed a matter of little moment in the first years of life. If we consider the disastrous results to which ignorance on these points has led, and the inconvenience which often arises to the best educated among us from this single source, we shall find that time well employed, which is devoted to securing a knowledge of the meaning of words. This practical instruction may be

commenced with the second period of youth—at the age of six. Curiosity and the perceptive powers being then in full activity, the child's attention may be easily cultivated through them, and a spirit of observation, analysis, and comparison, the foundation of a correct judgment, be early fostered.

The first inquiry to be made in the examination of an object consists in ascertaining the parts of which it is composed. These are sometimes so minute that considerable attention is requisite to discern them all. So important is this inquiry, that an acquaintance, for example, with all the parts of a plant, and with their forms and colors, constitutes the knowledge of its botanic character, and involves a considerable portion of the botanic technology. The child must be shown how all the parts of an object are connected, how they harmonize, and how far each is indispensable to the completion and pleasing effect of the whole: thus will he be accustomed to discriminate what is principal from what is accessory, what is useful from what is merely ornamental.

By attending to the matter of which the object and its parts are composed, the child will learn how to distinguish animal, vegetable, and mineral substances; he will form clear ideas of what is natural and artificial, simple and compound, native and foreign, indigenous and exotic.

The next consideration will be that of color: this beautiful property of matter, diffused over all the works of nature and art, will, by the infinite variety of its shades and combinations, offer to the visual faculty an endless means of exercise. Accuracy of perception in reference to it will prove useful for various branches of knowledge and pursuits in life. A due attention to the diversity of colors, to the proportion of parts, and to the gracefulness of forms, considered as the elements of beauty, will sow the seeds of taste.

An acquaintance with colors can be very early imparted to a child. To enable him the better to distinguish them and recollect their names, the instructor should be provided with a tabular illustration of their prismatic order; he should, first, point out to him the primitive colors, red, yellow, and blue, then the three intervening compound colors, orange, green, and violet; and, afterwards, their various shades, from the lightest to the deepest hue. Glasses of different colors, placed by pairs one over the other, would afford him the means of perceiving the effect of the mixture of colors. He may be shown that white is the color of light, or the blending of the prismatic colors, and that black is the absence of them. As all imaginable shades of color can be produced by a diversified mixture of red,

yellow, blue, white, and black, the child may be exercised in discovering which of these elements prevails in any compound color presented to his sight.

2. *Numbers; Ball-Frame.*

The elements of arithmetic may enter as part of the exercises of this early period: the practical nature of its first rules is well suited to the understanding of children. Relations of number and arithmetical calculations are also, from their simplicity and mathematical accuracy, admirably adapted to the training of the young mind to habits of attention and reasoning. But, before a child is exercised in mental calculation, which at this early period might overtask his reflective powers, and before he is taught the numerical figures, which are signs of abstract ideas, he should be accustomed to associate the numerical adjectives with the names of objects which admit of computation; for these adjectives, when used by themselves, being mere abstractions can not impart clear and correct notions of number. A variety of similar things should be employed, particularly the current coins of the country, counters, cards, inch square, or cubic blocks, which, by gradual addition and subtraction of units and groups, would teach the value and relation of numbers as also the fundamental rules of arithmetic; he should be taught to express in numbers the dimensions of objects by applying to them a unit of measure, the inch or foot, as the case may require. When the child has frequently associated real objects with the ideas of number, the numerical names and figures will easily pass in his mind from the concrete to the abstract state.

The ball-frame, consisting of one hundred sliding balls on ten horizontal parallel rods, may, in the hands of a skillful instructor, not only assist in explaining the numeration, that is, the formation and names of numbers, but also serve to teach how to solve readily the elementary questions of addition and subtraction, multiplication and division. If the balls be of two contrasting colors and strung alternately, the eye will be pleased, attention captivated, and calculations considerably facilitated. With this frame a child can himself discover the products of the multiplication of any two factors under ten; he sees that these factors can be inverted, that multiplication is only an abbreviated form of addition, and thereby clearly understands the principles of this operation. The mental act, also, by which he finds out these products will enable him to recollect them better than the absurd mechanical parrotting of the multiplication-table.

This frame is not a late invention, as may be seen in Friend's work on Arithmetic, published fifty years ago; it has been used for a long

time in the primary schools of France and Germany. It must not be confounded with the abacus of the ancients, in which one line of beads or balls was made to stand for units, the next for tens, another for hundreds, and so on. But, although the abacus was originally intended for casting up accounts, it might also prove useful in teaching the first principles of arithmetic. The Russians and the Chinese have, from time immemorial, performed calculations by means of such frames; but that of the latter, called *shwan-pan*, differs from the one adverted to here by its having only five beads on each wire, the relative values of which are distinguished by their size and color.

The one hundred ball-frame is preferable to that which is composed of 144 balls, and is adopted in many infant schools in this country, inasmuch as it answers all the purposes of calculation, and besides clearly illustrates the principle of the decimal system, since the relation of units to tens and hundreds is observable through all combinations and computations. It is a matter of great importance that a child should in his first conception of number perceive the simple and beautiful arrangement by which a place is assigned to the different powers of ten that compose any number. In fact, a knowledge thus acquired of the composition of numbers leads to a rapid understanding of the mode of representing them by numerical figures. To effect this last object, pasteboard, wood, or brass figures would be found more convenient and more interesting to a young child than writing on paper or slate.

At a more advanced age, toward the end of the second period, he should be exercised in mental calculation, passing very gradually from simple to complex operations. This exercise, which admits of endless variety, accomplishes several objects: it brings into action the reflective and recollective powers; it disciplines the understanding in exact reasoning; and gives habits of calculation, such as the daily transactions of life require. But not only is arithmetical expertness useful in the practical business of life, it is also indispensable as the basis of all real progress in the mathematical and experimental sciences, in which the learner has constant need of applying the rules and performing the operations of arithmetic.

3. Fractional Numbers; Fractional Apparatus.

When a child has a clear idea of numeration and of the elementary rules in whole numbers, he may be initiated into the first notions of fractional arithmetic. These notions, intricate as they are, when taught abstractedly through the fractional notation, become extremely simple and intelligible, even at a very tender age, when explained by

means of visible illustrations. The different objects which have been mentioned for counting in whole numbers may equally serve for imparting to young people the first notions of fractions. A number of such objects, being considered as a whole and variously divided into equal parts or fractional numbers, would, by the addition and subdivision of these, illustrate the relative value and the elementary operations of simple fractions. This, however, may perhaps be still better effected by the following contrivance:—

Let about 16 or 18 thin slips of wood or pasteboard, about half an inch in breadth, be made all exactly the same length, say one foot. (This length is convenient, and will, besides, accustom the eye of the child to a useful measure.) Let them be divided by a line across the breadth, the first into two equal portions, the second into three, the third into four, and so on up to the eleventh, which will be composed of twelve equal parts; a few other slips may be respectively divided into 15, 18, 20, 24, 36, 48, 60, 72, and 84 equal parts, which numbers are chosen on account of their having a great number of divisors. Let the lines indicating different subdivisions be of different colors, and those indicating equal portions in the different slips be of the same color—all the halves throughout being thus of one color, all the thirds of another, and so on. Let also the denominator, that is, the number of parts into which the foot-slips are divided, be marked at one of the ends of each slip. These colored lines and written denominators will greatly assist in distinguishing at once the different fractions, reducing them to their lowest terms, and finding out their common denominator.

The pupil with these slips placed side by side under his eye, should be called upon to observe the various subdivisions of the foot which are marked on them, and be told the names by which are denominated the equal parts of each slip, *halves, thirds, fourths or quarters, &c.*; he may, from these, discover by analogy, the names of the others. He should be made successively to notice that $\frac{2}{2}$, $\frac{3}{3}$, $\frac{4}{4}$, &c., are equal to one another; that $\frac{1}{2}$, $\frac{2}{4}$, $\frac{3}{6}$, &c., are the same; that $\frac{1}{2}$, is greater than $\frac{1}{3}$, $\frac{1}{3}$ greater than $\frac{1}{4}$, &c.; that $\frac{2}{3}$ are less than $\frac{3}{4}$, $\frac{3}{4}$ less than $\frac{4}{5}$, &c.; that the fraction is greater in proportion as the numerator is increased, or the denominator lessened, and *vice versa*. He should add, subtract, find a common denominator, and reduce fractions to their lowest terms. In short, he might, by means of this simple apparatus, and, under the guidance of a judicious teacher, gain a clear acquaintance with the denominations, nature, value, and properties of common fractions, long before he could safely be introduced to their numerical symbols and to their abstract forms.

4. Forms; Geometrical solids; Architectural game.

In order promptly to familiarize the pupil with the most general forms and the terms expressive of them, a collection of small geometrical solids should be exhibited to him, such as spheres, cylinders, cones, prisms, pyramids, and the regular geometrical bodies in different dimensions, as also a cone with its several sections. In minutely examining each of these, his attention may easily be directed, by a natural analysis, from the solids to the surfaces, triangles, quadrilaterals, and polygons; from these to the angles, lines, and points. In comparing them afterwards, he may find out himself their differences, and classify them; and, in stating the result of his examination, he is led to the use and to the definition of the scientific terms which designate them, and to the consideration of the first elements of geometry.

By a reference to the geometrical solids a child may easily understand what is meant by *vertical* and *horizontal*; *perpendicular* and *oblique*; *parallel* and *divergent*, and *convergent*; *right*, *acute*, and *obtuse angles*; *circle*, *circumference*, and *diameter*; he may be shown the principal properties of triangles, the mode of measuring and dividing angles, the relative length of circumference and diameter, and may be taught by means of small square blocks or cubes, how to measure rectangular superficies and solids.

If the child be made to sketch the outlines of these solids, it will be a further preparation for his future study of that science; for these diagram sketches, within the power of a young child—and his first step in the useful practice of drawing from nature, will direct his attention more closely to the geometrical forms, will familiarize him with the terms and graphic representations of them, and will give him some practical notions of perspective. The precision and accuracy of eye, gained, at the same time, by the habit of drawing, would considerably assist him in clearly conceiving the forms, proportions, and dimensions of objects. The facility and correctness, also, with which he will execute these figures, if he has early practiced drawing, will, at a future period, render geometry much more attractive; whilst the elements of this science will, in their turn, tend to give a useful direction to linear drawing.

The practice of ascertaining the various parts, substances, colors, and forms of objects, is an effectual preparation for the study of the natural sciences; it can not fail to impart accuracy and acuteness to the perceptive powers of young persons; it will accustom them to observe and analyze things minutely; while all the

terms relative to these different points will considerably extend their vocabulary.

To those who advocate for children science in play, we will suggest that the young mind may be effectually familiarized with forms and proportions by means of an architectural game composed of brick-shaped pieces, and others in imitation of those which enter into the construction of buildings—blocks of different sizes (say, from one inch to four inches in length, one inch in breadth, and half an inch in thickness,) cubes, arches, columns, with detached bases, capitals, and moldings, in different orders of architecture. These building materials may be so contrived as to present, by their various combinations, illustrations of geometrical propositions, and, by their superstructure, edifices in different styles of architecture. They should consist of close-grained wood, of two contrasting colors, so as to please the eye by their neatness and symmetrical arrangements; and if they be made with mathematical accuracy, and on a scale founded on the national measures, they will be easily raised in conformity to any architectural design, while the eye will be early habituated to a useful measure. The author, anxious to give his children the benefit of such a game, has constructed one with box and Brazil wood (white and red,) composed of about six hundred pieces of various sizes and geometrical forms, on the above-mentioned scale of measurement. It has been for his young family not only an exhaustless source of pleasure and instruction, but an efficient means of forming habits of patience and enticing them to efforts of invention.

SECT. II.—EXERCISES IN OBSERVATION.

1. *Properties, Comparisons, and Classification of objects.*

From the age of eight or nine, when the child's perceptive faculties have been exercised on the most apparent properties of things, and when he has learned to confine and prolong his attention, he should be required to examine objects more minutely, to compare them under different points of view, and to state in what particular two or more resemble or differ. These exercises would prove highly interesting to young people, who delight in discovering differences between similar things, and resemblances between different things. The judgment, according to Locke, is exercised by the first act, and the imagination by the second: all the intellectual powers, in fact, which have comparison for their basis, would be thus highly cultivated. He who is best able to compare will know best how to analyze, to abstract, to generalize, to classify, to judge—in one word, to reason.

Various objects should be successively submitted to the organs of sense, and the relations in which they stand to each other be duly examined, in order that, by observation and comparison, their particular properties may be discovered, as well those which are relative to our constitution as those which are inherent in the objects themselves. A true knowledge of things consists in a perfect acquaintance with all their properties. When objects have been considered in all their bearings, the child may be directed how to classify them according to the similarity of their essential attributes. It is, in fact, the relation of resemblance which, by the general notions and corresponding general terms that flow from it, becomes the source of classification and definition, and of all that is valuable in language.

As the attributes inherent in matter may not all present themselves to the mind of the teacher at the very moment when he wishes to direct the attention of the pupil to them, tables containing in juxtaposition adjectives of opposite meanings would enable him to point out all the properties the presence or absence of which can be ascertained in objects.

Every new discovery which results from the investigation of objects exercises the understanding, leads to a knowledge of the true essence of things, and stores the memory with adjectives and abstract nouns, the chief materials of descriptive and philosophical language. A familiarity with such terms, by generating a habit of nice discrimination, and enriching the imagination with vivid conceptions of things, constitutes the characteristic elements of eloquence. Uneducated people are particularly deficient in these two species of words. The child being also led to distinguish the properties which are natural or artificial, essential or accidental, permanent or transient, absolute or relative, and to discover those which belong to one object exclusively, or are common to several, will find no difficulty in making classifications, or availing himself of those already existing, and of their corresponding nomenclatures. Classification is the indispensable complement of observation.

As young persons collect facts, they must be frequently exercised in classifying them with reference to their resemblance or difference. If any number of objects is considered with regard to one or several points of resemblance, the collection constitutes a class named *genus*; subdivisions of these into classes of objects having properties in common and distinct from the rest, form as many *species*; finally, when, on a closer examination, single objects are considered in reference to properties which are peculiar to them, they are denominated *individuals*. The child must be shown that the terms *genus* and *species*

are relative: the same class which is a genus with reference to the sub-classes, or species included in it, may be itself a species relatively to a more extensive, or, as it is often called, a superior genus. *Bird*, for example, a genus with regard to the different species *eagle*, *sparrow*, &c., is, in its turn, a species of the genus *animal*, which is itself a species with respect to the superior genus *organized being*. *Filial love* is a species of the genus *affection*; *affection*, a species of the genus *goodness*; and *goodness*, a species of the genus *inclination*. The distinction of generic and specific terms applies to a very extensive range of mental conceptions.

The complex operation of classifying things according to their points of resemblance, and of distinguishing them by their points of dissimilarity, is one of the highest exercises of our reason and the most admirable effect of analysis. It will develop in a child the powers of observation, abstraction, and generalization, and will prepare him for the study of the natural and experimental sciences, by giving him habits of inductive reasoning—a principle on which these sciences rest.

Nothing is more beneficial to the mind than the early habit of referring particular ideas to general principles, and classifying objects and the notions acquired about them. The memory will best retain the information intrusted to its keeping when arranged according to some principle of generalization. Classification leads to the clear conception and exact definition of terms; because the names given to our generalizations in order to classify things, are connected in the mind with the peculiarities that characterize these things: it becomes the more useful as ideas accumulate on the mind; for, in general, confusion does not arise so much from the number of ideas, as from the ineapability of conceiving them clearly and arranging them in a proper order. Classification is the ground-work of inductive philosophy, and of all scientific investigations.

2. Incidental investigations about Objects.

The act of observing, which springs from the natural desire for knowledge, reacts on that desire and stimulates it, when it has become a habit: if, therefore, the child's powers of observation have been judiciously exercised, his inquisitiveness will increase with his mental development. He may then gradually be brought to investigate incidents connected with an object: among others, what are its different uses, the country whence it comes, the mode of production, the process of fabrication, the instruments employed in making it, and the trades concurring to its completion.

The different uses to which things are applied depending on the properties which they possess, one of these considerations will easily lead to the other. If, therefore, a child is acquainted with the use of an object, he may be requested to infer what must be its properties; or these being known to him, his inventive power may be exercised in finding how it can be rendered useful: thus is he led to the investigation of causes and effects. At a more advanced age, he will be aided in the search by visiting manufactories, or exercising his ingenuity, as has been recommended, in working various substances; for the properties of matter are best ascertained by the modification which it undergoes in the arts.

By frequently inquiring into the uses of things, a child forms the valuable habit of estimating every thing according to its utility, and of turning it to account. The inquiry into the mode of production and fabrication will tend to cultivate in him a spirit of investigation and invention, whilst the constant practice of ascertaining causes and effects will foster dispositions most favorable for afterwards making discoveries in the arts and investigating truths in the higher sciences. Mere chance has less to do with the work of invention than is generally supposed: in most instances, the lucky accident which gave birth to the discovery has but set in motion a certain train of thought in an already prepared mind.

In speaking of the place where the manufactured article or the substances of which it is composed, are produced, the preceptor has an opportunity of conveying interesting information on the natural productions of various countries, especially on those of his pupils. Should he have within reach a general map, or, better still, a large terrestrial globe, he will add considerably to the benefit of the lesson by pointing out the situation of every country or town, as its name is mentioned.

In the first examination of objects children should be induced to discover what belongs to nature and what to art. Natural substances assume, by the effect of art, so many forms and appearances, that, in many cases, a great deal of ingenuity is required to find out the original materials. These investigations will bring within the range of conversation the three great subdivisions of natural substances, namely, the animal, vegetable, and mineral kingdoms, as well as the various arts of life.

These and the other topics which have now been enumerated as coming within the scope of these conversations, will considerably assist children in comprehending books when they begin to read, and will prepare the way for their future study of many interesting

branches of instruction. A variety of useful notions is elicited, which it would take many years to obtain by the ordinary routine of experience, and which never forms part of a college course.

3. *Cautious Gradation to be observed in these Lessons.*

One of the chief objects of early lessons ought to be to excite in a child such a love of knowledge as will induce him to be ardent in its pursuit. His natural desire of variety should be indulged, and the gratification of his curiosity should be combined with his improvement. To make him a more active agent in these lessons, he should, at first, be induced to point out objects, the names or properties of which he does not know, or which he may have forgotten. This simple act of reflection will prepare him for making other inquiries afterwards. In the first stages of these lessons, he should be frequently allowed to choose the objects about which he wishes to be informed; he should be particularly encouraged to ask questions and make observations. Whatever is interesting to him is an appropriate subject of investigation. He will learn with delight new facts and new terms connected with an object already familiar to him, or information given him in answer to his questions; and what he thus learns he easily remembers. The remarks of the child will, in many cases, show the instructor in what manner the subject may be treated. When the topics touched upon are not new to him, he may be questioned about them; when they are, he should receive whatever information is suited to his wants and age; the instructor, at the same time, keeping up his pupil's attention by kindness of manner, liveliness of delivery, and occasional anecdotes.

The benefit to be derived from the conversations on objects will greatly depend on the cautious gradation observed in introducing new considerations, and in not allowing the lessons to continue so long as to produce fatigue. They should cease before the child evinces symptoms of weariness; for it is desirable that the impression on his mind, at the conclusion of the lesson, be pleasurable, in order that he may feel a lively desire for its renewal.

These exercises in observation, which, in the commencement, ought not to exceed a few minutes, may be gradually lengthened, as children acquire with age greater command over their attention, and greater desire for information. Many objects should, at first, be offered to their notice, because the immaturity of infancy does not permit a minute investigation of each; and attention can then be kept up only by variety and novelty. As their powers of observation and reflection increase by exercise, the subjects of consideration

must be gradually diminished, until one may suffice at a sitting. Thus, as they advance, being required to attend more closely to a single object for a greater length of time, more unity of design is preserved, and more depth of information is acquired. But let it never be forgotten that long confinement and protracted application to one subject should be sedulously avoided. There must be no gloom, no misery, associated with the first intellectual exertions: happiness is the privilege of childhood.

SECT. III.—EXERCISES IN REFLECTION.

1. *Size, Weight, Durability, &c., of things.*

When children have been for some time engaged in conversing on the subjects above alluded to, and when reading can be practiced concurrently with and subsidiarily to oral instruction, that is, toward the age of ten or eleven, the instructor will introduce considerations of a higher character. He must now exercise the reflective powers of his pupils; and, for this purpose, he must enlarge their sphere of observation, and explore with them the fields of science.

The properties of things, or the laws of nature respecting them, which are submitted to the attention of young persons, must now be considered as the elements of scientific knowledge. These properties, or, to speak more philosophically, the relations in which things stand to each other, may be classified under three heads: 1. Relations to our constitution, as their *color, taste, temperature, form, &c.*; 2. Relations to other particular substances, as their *compressibility, fusibility, inflammability, fragility, &c.*; 3. Relations to bodies in general, that is, which may be predicated of all bodies, whatever be their particular properties, as *rest, motion, extension, quantity, &c.* The first two kinds of properties are elicited by comparison, and are relative: those of the third kind are independent of relation to any particular substance, and are absolute. The properties which bodies possess as belonging to some particular class of beings, form the data from which to reason in natural history and the physical sciences; the properties of the third kind form the subject of our reasoning in all mathematical investigations.

In addition to the consideration of the parts and substances of objects, to the notions of number, form, color, and other sensible properties, to which we have already alluded, the children will be made to estimate the size, weight, durability, and value of things, the relative proportions of different measures of the same kind, the relative positions of various objects, or of the different parts of one object, their distances from them, and from each other. For this new series

of exercises the learners should be furnished with the various measures in common use, a yard and foot, a quart, pint, and quarten; scales, steelyard, and weights; a dial with revolving hands; gold, silver, and copper coins; a plumb line, a square rule, and compasses. To these should be added the measures, weights, and coins of any foreign country whose language they are to learn.

During the lesson these measures should always be at hand, and referred to as a test in the examination of objects. By frequent application of them, children would form a just idea of measures of all kinds, of the subdivision of time and the value of money, and would soon be familiarized with the calculations required for the ordinary purposes of life. A small sum, made up of the current coins of two countries, would enable them to practice various calculations in reduction and exchange. Different graduated measures of capacity and weight would offer similar exercises to discover their relative value, and show how many measures of one kind are equivalent to one measure of the other. Many interesting arithmetical problems may be founded on the facts thus acquired.

We need scarcely advert to the superiority of this practical instruction over the senseless and irksome task of learning by heart tables of weights and measures, often imposed on children, when they have no idea of what is meant by the technical terms of which they are composed. The details so often found in books of the value and measures of things, the dimensions of buildings, the distances of places, the heights of mountains, the length of rivers, &c., can convey but vague and erroneous ideas to those who do not possess clear notions of the current money, of ounces, pounds, and tons weight, of pints, gallons, and bushels, of feet, fathoms, and miles.

The parts and the substances of objects being now investigated more philosophically than heretofore, will call the attention of the young observers to the classification and nomenclature of organic and inorganic matter, and to the various departments of natural history and natural philosophy. The mention of colors may, henceforth, afford the instructor opportunity of giving to inquisitive learners an insight into the theory of light, of explaining, by means of the prism, the phenomenon of the rainbow, and of investigating many optical problems. Considerations of quantities, forms, dimensions, superficies, and magnitude, will gradually lead to practical arithmetic, to the elements of geometry, and to the measurement of plane and solid figures; those of weight to the principles of gravitation, and, from them, to the elements of mechanics and astronomy; those of distance to perspective and to the mention of the telescope and of astronom-

ical discoveries; those of durability and time to chronology and history; those of value and cost to the elements of wealth and to the first principles of political economy; references to the countries from which objects come will furnish the opportunity of entering upon geographical inquiries. Thus, by the force of association, numberless chains of ideas, depending chiefly on the information and habits of study of the instructor, will exercise the reflective powers of the young, and enrich their memory with extensive and useful knowledge.

2. Physical Geography—Geographical box.

In all investigations the instructor should seize every opportunity to turn the conversation on useful subjects. But, among those which may engage the attention of the young, geography is one of the most suitable; for it is addressed to the senses and memory as much as to the reflective powers.

The child is taught the points of the compass relatively, first, to the position of the room in which he is, and, then, to the different parts of the house. He may, afterwards, when he is out of doors, ascertain the geographical direction of the streets, the course of the river, and the relative positions of different buildings. But, before the denominations of east, west, north, and south, are mentioned to him, he should be told of the rotundity of the earth as well as of its double rotary motion, and be made to observe the direction of the sun, its successive positions in the heavens—in the morning, at noon, and in the evening. These terms, arising out of the want which he has of them, will be clear, and easily retained. How many young people are there who, for want of this previous practical information, see in the cardinal points only the four sides of a map!

The geographical terms expressive of the various natural subdivisions and physical characteristics of land and water can never be defined so as to give children clear and accurate ideas of the things which they represent. They are best explained in the presence of the things themselves. But as many of these objects can not be seen in their natural state, their place might be supplied by a small model in relief of an imaginary portion of the earth exhibiting its principal features.

The construction of such a model presents no difficulty: the author, applying to the education of his own children most of the suggestions thrown out in these pages, has made one himself for their use. A lake, a Mediterranean sea, bays, &c., are carved out of wood; and mountains, rocks, banks of rivers, and undulations of the ground are made with putty; the whole is painted in oil of the natural color of

the objects represented—white for the snowy peaks, green for the valleys, &c. This model fits in a box one foot square by two and a half inches in depth, of which it occupies the half; the inside is painted a light bluish green, to imitate the color of the sea.

At the time of using this box it is half filled with water, which, coming in contact with the sides of the model and passing under it, produces peninsulas, bays, harbors, creeks, lakes, &c.; and thus gives a faithful and most vivid representation of the physical character of the terrestrial and aqueous globe. To add to the usefulness of this apparatus, a magnetic needle is placed on a pivot fixed on one of the mountains, thus indicating the relative geographical position of every spot.

We need scarcely say that a geographical lesson founded on these elements is highly instructive and entertaining to young children. Their natural curiosity is excited at the sight of this model; and they anxiously expect any information which the instructor is about to impart to them on the physical constitution of the globe, and the natural phenomena connected with its existence. They may be called upon to define in their own words all the terms, of which they have the sensible signification before their eyes; they see that an island is the counterpart of a lake; a cape, of a bay; an isthmus, of a strait: guided by the needle, they may be made to state the relative position of different places, as well as the direction of streams and chains of mountains in reference to the points of the compass. A survey of this fac-simile will give them an idea of the innumerable beauties of the terrestrial surface; it will bring to their notice its verdant plains, its diversified hills, its winding rivers, expanding as they run down to the sea, which spreads its immense sheet over more than half the globe. They may be told of the indispensable agency of water toward the fertility of the earth, the existence of man, the arts of life, and international communication; they may be told of navigation in modern and ancient times, of the mariner's compass and the polar star, of sailing and steam vessels, of maritime discoveries, of celebrated navigators and travelers, and of many other interesting subjects, which would be called to mind by the sight of land and water.

Children take a lively pleasure in traveling, with the end of a pointer, over this Lilliputian world, and naming each place as they journey on, sometimes following down a river from its source to its mouth, or seeking a defile in a mountain to pass into the valley at the other side; sometimes resting on a table-land, or ascending a peak; at other times, going along the coasts over strands and cliffs,

standing on a promontory, or venturing on a sand-bank; now and then shouting with joy at the discovery of a volcano, a cavern, a grotto, a cascade, or a cataract. All these objects will recall to the mind of an instructor conversant with the wonders of our planet, the most remarkable among their corresponding realities; the occasional mention of them, at the moment when his young hearers' attention is riveted on the subject, could not fail to be eagerly received. These geographical topics will by an immediate connection turn the conversation on geological and atmospheric inquiries, on the structure of the earth, and the distribution of organic life over its surface; its mines of coal, salt, metals, and diamonds; its various strata and fossil remains; on tides and winds, hot and mineral springs, water-spouts, earthquakes, volcanic eruptions, and a thousand other natural phenomena. Thus will they, in an impressive manner, become rapidly and thoroughly acquainted with the elements of physical geography and the great laws of nature, and be excited, at their entrance upon these studies, by the desire of proceeding farther.

When a child has been familiarized with these elements, his next step will consist in being made acquainted with the nature of maps, that he may early know how to use them, and be induced to refer to them in the course of his reading. This he will accomplish most effectually by constructing some himself, under the guidance of his instructor. If he has been early encouraged to sketch from nature, he will easily draw with reference to the points of the compass the plan or map of the room in which he studies, and afterwards that of the premises and grounds surrounding the house in which he lives. This will enable him the better to understand the relations which maps bear to the reality, and consequently to refer to them with the more profit.

After he has executed several maps of particular places, he may undertake the tracing of whole countries. A black globe of two feet in diameter, at the least, made so as to admit of delineations in chalk, would considerably facilitate this object and enable him to solve many geographical questions.*

The clear notions of number and measures which the child may, by this time, have acquired will facilitate his further progress in the study of geography, by enabling him to conceive rightly the various numerical considerations which occur as part of that science, such as the superficies of the earth, the extent of countries, the relative distance of places, the amount of population, the length of rivers, the height of mountains, the measure of degrees, and others.

* Such Globes are made by Candee & Co., New Haven, Conn.

3. Political Geography; *Globe with National Flags.*

Equal in importance to a knowledge of the physical constitution of our globe is an acquaintance with the various races of men who cover its surface, and the numerous political communities into which they are formed. A complete course of geography should comprise these different subjects of consideration. When children have clear notions of the extent, form, composition, and external configuration of the earth, they may with profit be told of the different countries into which it has been subdivided, and be informed of their resources, and of every thing relating to the nations by which they are inhabited. This information constitutes political geography, which is the foundation of political science; for, unless we know the condition of a country and its inhabitants, we can not reason correctly on their wants, customs, and means of prosperity.

The elements of the condition of a country are either natural or artificial. The natural elements are its geographical position, its climate, its boundaries, its coast-line, the character of its rivers, and the quality of its soil, its mineral, vegetable, or animal productions, and lastly, its population; the artificial elements consist of the civil and political institutions of the people, their agriculture, manufacture, and commerce; their progress in the arts and sciences; their language, literature, religion, and mode of life. The attention of the learners should be directed to all these subjects in turn, as circumstances afford opportunities of entering upon them. They should, especially, be shown how the natural elements of a country, by determining the character and peculiar energies of the people, influence their industrial, social, moral, and intellectual habits.

As an introduction to the first elements of political geography we would recommend the use of a globe containing only the terrestrial and aqueous configuration of the earth, with the national boundaries of the different countries and an indication of their capitals. The child, who has to learn these first notions, can, with this globe, easily attend to them without the confusion which, in using the ordinary maps and globe, arises from the numerous names and lines of rivers with which they are covered, and which are not needed at the outset. But to render this first study more impressive and more interesting, we connect it with another branch of information, which, although most useful through life, has been totally overlooked in the education of youth. We allude to those emblems which, floating in the breeze, proclaim all over the globe the existence and power of the nations which they represent.

An acquaintance with national flags is indispensable to naval and military men, and useful to all the members of a commercial community; for they serve to distinguish the different nations in their political, military, and commercial relations. The distinctive flags of the numerous ships which crowd our harbors and docks are to him who is acquainted with them the source of much valuable information. They exhibit in one view our commercial intercourse with foreign nations; they lead the mind to an inquiry into the nature of our imports and exports, and hence into an investigation of our agricultural and manufacturing produce.

The child, having been told the names of the nations to which the flags belong, is desired to place these in the capitals of the countries to which they belong, and which are indicated by small holes into which the ends of the flag-staffs are made to fit. It may be easily conceived how amusing and instructive he will find the occupation of planting these standards in their proper places. When they have been distributed all over the globe, the pleasing effect which their variegated colors and their different emblems present to his eye powerfully fixes his attention: he sees at one glance, and in a striking manner, the relative positions of all nations, and their various possessions abroad.

In order to extend still farther the utility of this geographical apparatus, the size of the flags should vary with the degree of political power of each nation, and the length of the staffs with the extent of territory of each country. On the staffs may be inscribed the amount of population of the respective countries, their superficies in square miles, and the names of their capitals. In addition to these fundamental notions, the instructor could, now and then, as any flag engages the attention of his young pupils, associate with it much useful information concerning the people to whom it belongs. He may speak of their mode of government, their customs, national character, and degree of civilization; of the pursuits in which they are most remarkable, and the discoveries and inventions with which they have benefited humanity; of their standard works, and the advantages to be derived from a knowledge of their language.

With this apparatus, and in the case especially of young persons of the upper ranks, a well-informed teacher may highly entertain his pupils with interesting narratives relating to the veneration of people for their national flags, the honor attached to their defense, or to the taking of one belonging to an enemy, and the deeds of valor to which both gave rise in ancient and modern wars. A description of the armorial bearings of nations and noble families, which originated

in the crusades, and are emblazoned on their different banners and coats of arms, as also an account of the origin of feudal distinctions, and their emblematic mode of transmission to posterity through the devices of heraldry, would excite in high-spirited youths a lively interest in the chivalrous exploits of their ancestors, and in the history of the middle ages; the inquiries might be continued down to modern times, in following the traces of these distinctions still perceptible in the military uniforms of nations and the liveries of private families.

In concluding these suggestions on the mode of introducing young persons to the study of geography, we will extract from an American writer (Horace Mann's "*Report on Schools in Europe*,") a short and lively description of a lesson on this subject, delivered in his presence by a German professor to an elementary class. We feel the more inclined to do so, as it shows the value of linear drawing in teaching, and presents a new feature in geographical instruction.

"The teacher stood by the blackboard with the chalk in his hand. After casting his eye over the class to see that all were ready, he struck at the middle of the board. With a rapidity of hand which my eye could hardly follow, he made a series of those short divergent lines, or shadings, employed by map-engravers to represent a chain of mountains. He had scarcely turned an angle, or shot off a spur, when the scholars began to cry out, 'Carpathian Mountains, Hungary, Black Forest Mountains, Wirtemberg,' &c.

"In less than half a minute, the ridge of that grand central elevation, which separates the waters that flow north-west into the German Ocean, from those that flow north into the Baltic, and south-east into the Black Sea, was presented to view, executed almost as beautifully as an engraving. A dozen crinkling strokes, made in the twinkling of an eye, represented the head waters of the great rivers which flow in different directions from that mountainous range; while the children, almost as eager and excited as though they had actually seen the torrents dashing down the mountain sides, cried out 'Danube, Elbe, Vistula, Oder,' &c. The next moment I heard a succession of small strokes, or taps, so rapid as to be almost indistinguishable, and hardly had my eye time to discern a large number of dots made along the margins of the rivers, when the shout of 'Lintz, Vienna, Prague, Dresden,' &c., struck my ear. At this point in the exercise, the spot which had been occupied on the blackboard was nearly a circle, of which the starting-point, or place where the teacher first began, was the center, but now a few additional strokes around the circumference of the incipient continent extended the mountain

ranges outwards toward the plain—the children responding the names of the countries in which they respectively lay. With a few more flourishes the rivers flowed onwards, toward their several terminations, and, by another succession of dots, new cities sprang up along their banks. By this time the children had become as much excited as though they had been present at a world-making. They rose in their seats, they flung out both hands, and their eyes kindled as they cried out the names of the different places, which, under the magic of the teacher's crayon, rose into view. Within ten minutes from the commencement of the lesson, there stood upon the black-board a beautiful map of Germany, with its mountains, principal rivers, and cities, the coast of the German Ocean, of the Baltic and the Black Seas, and all so accurately proportioned, that I think only slight errors would have been found, had it been subjected to the test of a scale of miles. A part of this time was taken up in correcting a few mistakes of the pupils—for the teacher's mind seemed to be in his ear as well as in his hand—and, notwithstanding the astonishing celerity of his movements, he detected erroneous answers, and turned round to correct them. The rest of the lesson consisted in questions and answers respecting productions, climate, soil, animals, &c., &c."

"Compare," the author adds, "the effects of such a lesson as this, both as to the amount of the knowledge communicated and the vividness, and, of course, the permanence, of the ideas obtained, with a lesson where the scholars look out a few names of places on a lifeless Atlas, but never send their imaginations abroad over the earth, and where the teacher sits listlessly down before them to interrogate them from a book, in which all the questions are printed at full length, to supersede, on his part, all necessity of knowledge."

4. History and Chronology.

Connected with political geography and the subdivisions of the globe is the history of its inhabitants at different periods. Children may be made acquainted with the most celebrated characters of various nations, and the most remarkable events of their history, as particular countries are brought to their notice in the course of the conversation—the instructor taking care always to associate with the historical fact the time and place at which it occurred. It is particularly from sensible objects, from engravings, pictures, statues, bas-reliefs, and ancient monuments, that they should incidentally receive their first notions of history and chronology. Pictorial illustrations, which so generally accompany the text of modern publications, may

easily be procured; they will, from the vividness and permanency of visual impressions, be a useful auxiliary, in fixing historical facts on the memory.

Some regularity, however, may be introduced in this branch of instruction by means of synoptical tables of events and kings, arranged chronologically and synchronically. With one of these tables, a well informed teacher will be enabled to impart to his pupils a large amount of interesting information on the history of the nation, which is, at the time, the object of their consideration. This instruction should, at first, be purely narrative, the teacher confining himself to memorable events, heroic actions, remarkable sayings, and all those beautiful traits, which, while they interest young persons, tend to elevate their minds, and excite in them a taste for historical studies.

It needs scarcely be observed that children should at first be introduced to the history of their own country in preference to that of any other; their attention should next be directed to sacred history, which, going back to the origin of the world, is the best preparation for the study of ancient history and for the reading of the Holy Scriptures. With those who are destined to receive a classical education, Rome, Greece, and their mythology may be made occasionally subjects of conversation: and, in general, the history of any nation, whose language is being or is to be learned, should be made an object of instruction, either orally or through books, earlier than would otherwise be desirable.

In alluding to dates, the children should be led gradually from the present time, through a series of epochs not very distant from each other, up to the one referred to. Chronology and history should, in fact, be taught upwards, from the most recent to the most ancient dates, if we wish young learners to form a clear conception of remote eras. They will benefit the more from the past, as they understand better the present, and can compare one with the other.

A regular course of historical studies, however, can be pursued only by means of a series of works free at first from any detail of wars and political events, and increasing in minuteness and seriousness of matter progressively with the intellectual advancement of the learners. The information which they will thus acquire will be best retained by making it a subject of conversation with the instructor, or by simply narrating in their own words as much as they can remember. Should any important particulars be forgotten, the teacher may recall them and direct the attention of his pupils to them for a second perusal. In order that they may receive from their historical studies

useful lessons of morality and political science, he should accustom them to reflect on the motives of action and the passions of men, on the concatenation of events and their effects on the condition of the people, on the principles of good government, and the causes which produce either the happiness and prosperity, or the misery and ruin of a nation. But this regular course can not be entered upon at a very early age: this would be more dangerous than profitable. History to a young child would only be a confused collection of facts; for he could not perceive their relations with each other, nor appreciate their causes and consequences; and these facts, being read without discernment, could but impair his understanding. As it records more injustice and bloodshed than virtue and philanthropy, he would thus be early accustomed to depravity. It is best learned after the age of fifteen; until this time, young people may prepare for it by the study of geography and the perusal of voyages and travels.

History is particularly objectionable, as are all purely intellectual pursuits, during the first two periods of youth, because it does not exercise the powers of perception and observation. Those branches of knowledge should be preferred, which are favorable to out-of-door instruction, and which take for their theme the works of the Creation.

5. *Excursions in the Country, and visits to Manufactories.*

A child may be introduced to the elements of physical knowledge, in his walks in the country, in the garden, or by the water-side. He may be made to observe the hills and valleys, islands and lakes, fields and woods; the immense variety of plants, and the action of light, heat, and rain upon them; the different kinds of soils and the consequent varieties of vegetation; the origin of streams, the direction of the winds, their important office in nature, and their immense benefit to man. The changes which take place from one season to another should not be allowed to pass unnoticed: interesting phenomena occur at every period of the year, in the spring, especially, when the air, earth, and water are teeming with life. Let him watch the progress of the leaves, buds, flowers, fruits, and seeds of plants; let him follow the operations of nature in her various states, and observe the assistance which she receives from agriculture. At other times, let his attention be directed to animated nature; the active scene around him will present new and endless subjects of inquiry; the birds which fly on all sides, the cattle which graze in the meadow, the insects which creep at his feet, or buzz in the air, all will afford inexhaustible sources of most valuable instruction. If his curiosity

be judiciously excited and directed, he will watch with deep interest the varied and astonishing instincts by which these infinitely diversified beings sustain their existence, unconsciously but unerringly guided by their bountiful Creator.

Such lessons are peculiarly suited to the inhabitants of the country, who, passing their lives in the presence of nature, may derive continual profit and pleasure from the study of her laws, and the contemplation of her wonders. To a person whose attention has not been duly awakened to the external world, and who has not been early accustomed to observe, all the admirable works of creation are lost, the surface of the earth is a blank. The busy scene of nature passes before an unpracticed eye, without communicating an idea to the mind, and without kindling the spirit of devout adoration of Him, whose universal love smiles everywhere.

It is but another proof of the harmony of design in all the works of the Creator, that this method of directly cultivating the observing faculty can not be adequately carried out without a certain amount of muscular exertion, and of daily exposure to the open air, in collecting and examining the varied objects of interest with which creation abounds. In other words, we can not benefit the perceptive faculties without, at the same time, benefiting the muscular system and the organs of respiration, circulation, and digestion; and this grand recommendation in the eye of reason—pursuing study in the field of nature instead of in books alone—is actually, though not avowedly, that which retards its adoption in ordinary education. A ramble from the school-room into the country to survey the works of God, is deemed an encouragement to idleness and a love of pleasure; and, therefore, it is denied.

In rural excursions the sight should be exercised in distinguishing remote objects, and appreciating their number, forms, and dimensions; their distance should be estimated by the eye, and immediately verified by measurement. Short distances may be ascertained by paces, and longer ones by noticing the time consumed in passing over them. Thus, the relation existing between space, time, and motion may be shown in measuring the one by the other. Let the child find out what space can be passed over in a given time, or with a given velocity; what time is required to walk or run, at a certain rate, over a certain distance; what rapidity of motion is requisite to reach a determined point in a given time. Such practices would prove useful in many ways. The estimating of distances at sight, which in some people seems an intuitive act, is merely the result of habit; yet, how few can judge with even tolerable accuracy of the

distances at which objects are from each other, and from their own eye! To estimate the angle which objects make at the eye, is another practice of real utility to all men, and to naval and military men in particular.

A country residence is most favorable for pursuing all these exercises. To those who are confined within the precincts of a town we would recommend occasional visits to foundries, factories, and workshops: art, as well as nature, abounds in sources of instruction. In these visits a child would witness the facts which have already been made the subjects of his conversations, and would see the application of the sciences which will subsequently demand his attention. Thus useful mechanical and intellectual pursuits assist each other. "What an immense stock of scientific principles," says Dugald Stewart, "lie buried amid the details of manufactures and of arts! We may form an idea of this from an acknowledgment of Mr. Boyle, that he had learned more by frequenting the shops of tradesmen than from all the volumes he had read."

He whose mind has been early familiarized with the interesting scenes of nature and the wonders of art, will never lose the impressive lessons which they teach. Long after, in the ardor of literary composition, or amidst the excitement of public assemblies, their vivid images will reappear in their pristine luster to give happy expression to thoughts which shall then be awakened by passing events.

6. *Natural History, Mineralogy, Geology, Botany, Zoölogy.*

When, by casual consideration of objects, children have been familiarized with a variety of natural substances, the teacher, introducing more order into his lessons, may venture on classifications, and treat methodically of the three kingdoms of nature. This subject will furnish favorable opportunities for making frequent reference to physical geography, with which it is closely associated, by reason of the diversity of organic and inorganic beings, consequent on the difference of climate in various parts of the globe; whilst the practice of distinguishing the characteristic features of these beings, and following the chain which connects them, is highly calculated to improve the perceptive and observant powers, and to create habits of nice discrimination. The amazing variety of interesting objects which natural history offers for consideration, and the admirable adaptation of means to ends which they exhibit, render it the fittest branch of knowledge for exciting in young people a spirit of inquiry, and a sense of the infinite power, wisdom, and goodness of God.

Mineralogy may be made an object of attention in the first stages

of instruction. The distinctive qualities of inert matter are more simple and less numerous than those of vegetable and animal substances; they are more distinct and better defined. Minerals, different from plants and animals, can be kept within reach, and exhibited in all their different states. The brilliant colors of gems and metallic ores, as also their crystallization, a most striking feature of the external character of minerals, are well calculated to excite the curiosity of children and to fix their attention. The singular properties of diamonds, gold, quicksilver, and the loadstone, and the great diversity of purposes to which these minerals, and, more especially, silver, copper, lead, and iron, are appropriated, should be offered to their notice, as also the chief attributes of metals—their luster, sonorousness, tenacity, malleability, ductility, fusibility, specific gravity. The examination of metals will naturally lead to the mention of mines, the modes of working them, the countries where they are found, and the curious processes of metallurgy.

Closely connected with mineralogy is geology, which presents a most interesting field of research; it carries the mind from the consideration of rocks and mines, of mountains and valleys, to the period of their creation, and, by a natural transition, to Him who created them. Geology is, as it were, the earth's autobiography, written in symbolical and unmistakable language. Young persons should be familiarized with its elements and general outlines as soon as they can comprehend them. They may be told of the composition and arrangement of the materials which form the crust of our globe, of the changes which are continually wrought on its surface by the agency of inundations, earthquakes, volcanoes, and of the admirable contrivances by which it has been rendered, throughout successive ages, capable of supporting countless myriads of organic existences.

The important functions which plants perform in the economy of nature, the arts of civilization, and the support of life, claim for botany a prominent place in modern education. Few objects in the external world are more interesting than vegetable productions, and, especially, flowers and fruits, whose richness of coloring, as well as endless diversity of hues, forms, fragrance, and flavor, excite admiration for the wonderful display of power and goodness which they proclaim in their Author. The instructor should bring to his pupil's notice the influence of climate and culture on vegetation, the immense variety of plants, their exquisite perfection and universal usefulness; he should explain their structure and the functions of their organs, their mode of nourishment, of propagation, and their growth,

the nutritious properties of some and medicinal properties of others. Every botanical fact shows design, and affords matter for serious consideration, such as the natural dissemination of seeds, the successive changes of plants, the invariable direction of roots and branches, the circulation of the sap, the transpiration of the leaves, their happy distribution for the reception of light, air, and water, the purification of the atmosphere by their absorbent powers, and many other surprising phenomena of the vegetable kingdom.

To make children acquainted with plants, their names and botanical character, the instructor may, at first, place before them only a few of the most familiar species, and gradually introduce to their notice flowers, shrubs, and trees, less common—passing from indigenous to exotic, with the assistance of pictorial representations. By helping them to examine in what particular each differs from the others—independently, however, at first, of scientific nomenclature—he will enable them soon to distinguish the leading characters of a great number of plants, and will open their minds to endless subjects of admiration in the infinite variety of nature.

Different specimens of timber may also be presented to them, which will further engage their attention in discriminating between the properties of wood, and thence lead to a consideration of its usefulness. There is scarcely a plant of which the whole or some portion is not employed for food, medicine, clothing, or furniture, for distilling, dying, tanning, building, or other useful arts of life. In fact, the innumerable uses to which vegetable as well as mineral substances are applied by man for satisfying his wants or multiplying his enjoyments, may be exhibited in every thing around: such considerations will be an excellent preparation for entering upon the study of the physical sciences.

Zoölogy will afford endless subjects of familiar conversation, both amusing and instructive. The lively interest which children usually take in animals renders these suitable objects for giving them elementary notions of natural history. The domestic species should, at first, engage their attention, and, afterwards, by means of colored prints, the most remarkable among those which do not come within daily observation, may be made the subjects of very useful lessons. The fidelity and sagacity of the dog, the docility of the horse, the intelligence of the elephant, the industry of the beaver, the persevering fortitude of the camel, the generous magnanimity of the lion, will supply matter for entertaining narratives, serious reflections, and incentives to further inquiries. The instructor may speak of the varieties of animals differing with the latitudes in which they live,

of their external forms and characteristic qualities; of their food, dispositions, and instincts, in accordance with their organization; of the tender solicitude they display for their young; and of the services which many of them render to man. Particular mention should be made of those which supply his wants or administer to his well-being, during their lives, with their strength, swiftness, and sagacity, their milk and honey, their wool and silk, and, after their death, with their flesh, skin, fur, hair, feathers, bones, horn, ivory, shell, and other useful articles. If the conversation turn upon birds, he may expatiate on their varieties, plumage, migratory instincts, nest-building, power of imitation and melody. These subjects would lead incidentally to the different modes of fowling, hunting, and fishing in various countries.

Fishes and insects should, in their turn, become objects of inquiry; their diversified conformation, their amazing fecundity, and their wonderful adaptation both to the elements in which they move and to their modes of existence, will challenge admiration. The multiplicity of insects, and, especially of animalcula, is so vast as to baffle the most minute investigation: every plant, every leaf, every drop of water, is the abode of myriads which escape the naked eye, and are visible only by the aid of the microscope. The transformations which some instincts undergo, the ingenuity and industry which others display in the structure of their habitations; their diverse ways of procuring food, their instinctive skill in selecting places of safety for the deposition of their eggs, and in providing for the future wants of the young; their contrivances to guard their dwellings from the assaults of enemies, their modes of defense when attacked, their social habits—we may almost say, their municipal regulations and political constitutions—and innumerable other instances of the wise arrangement of a bountiful God, in providing for the preservation and well-being of his creatures, may be opportunely presented to children by a judicious and enlightened instructor.

It is when the young are filled with admiration for the tender care which the Creator has bestowed on his creatures, that benevolent feelings can be most effectively awakened in their hearts; they may be impressed with the idea that the lower animals, having sensations in common with humanity, cruelty to them is a crime. Pity to animals begets charity to men. The seasonable narration of some remarkable trait of the instinct of animals, of some anecdote of their attachment or sagacity, would interest children, call for their sympathies, and, at the same time, inspire them with a wish to inquire further into natural history. Many celebrated philosophers and

naturalists have acquired their taste for science from some pleasurable association of their earliest childhood. Linnæus attributed his love for the study of plants to some observations on a flower which his father made to him when he was about four years of age. The biography of eminent men would furnish multitudes of incidents which have similarly determined in them corresponding peculiarities of character.

7. *Natural Philosophy, Chemistry, Physiology, and Mental Philosophy.*

When the children's attention has been, for some time, engaged in acquiring a knowledge of the external forms and characters of objects, the description of which constitutes natural history, they may be made acquainted with the most curious and most important among the innumerable phenomena of nature, the secret causes of which are unveiled by natural philosophy. They may be led to consider the effects of bodies acting on each other, the laws of gravitation, motion, equilibrium, and the various mechanical powers—the lever, the pulley, the wedge, the screw, the inclined plane. They should be shown to what immense advantage to civilized man are these mechanical appliances and others, such as wind, water, steam, and the electro-magnetic fluid. The governing laws of mechanics may be illustrated by implements of domestic use—the poker, scissors, nut-crackers, steelyard, will exhibit various forms of levers; the very playthings of children—a top, a hoop, a kite, a ball, marbles, soap-bubbles, a sucker, a pop-gun, will exemplify diverse principles of science; no toy is despicable, no occupation is frivolous, which can assist in the elucidation of truth.

The pressure, levels, motion, elasticity, weight, and other properties of fluids, as well as the specific gravity of bodies, may be elicited in a familiar way, by the scientific results which bear more immediately on the occupations of life. Swimming, the floating of vessels, canals, water-mills, the water-press and water-clock, forcing and lifting pumps, the fire-engine, syphon, diving-bell, and many other philosophical contrivances, could be made the subjects of most interesting conversations in illustration of the properties of air and water. In alluding especially to the air, its nature and use in the arts may be further explained, and rendered sensible by means of the wind-mill, barometer, thermometer, air-pump, bellows, balloons, &c. Air being the medium of sound, its investigations would naturally lead to the consideration of acoustic phenomena, which may be elucidated by the vibration of bells, the effects of echoes, thunder, gun-powder, whispering-galleries, the speaking-trumpet, wind and string instruments, musical-glasses, &c.

It would be impossible here to enumerate the various familiar modes by which may be illustrated the principles of mechanics, hydrodynamics, pneumatics, electricity, galvanism, magnetism, optics, and astronomy. Books should be consulted by the teacher, both as means of enriching his own mind, and as stores from which he may select such information or such experiments as may be best suited to the understandings of his pupils; but the order in which are usually pursued all serious studies is, by no means, that which we should adopt in communicating the facts, or teaching the language of science to children. His chief object should be, by indulging their taste for variety and taking advantage of circumstances, to inspire them with an earnest love of knowledge. No branch of instruction is better calculated than natural philosophy for exciting and gratifying their curiosity; and, whatever be the way or the order in which they acquire the elements of that science, if they are once conversant with them, every thing they read afterwards will find its place. The particular circumstances of time, place, fortune, or social position, in which the learners are placed, will best suggest to a well informed instructor the department of the science and the modes of illustration which are available or appropriate; but there can be no doubt that, with diagrams and experiments, such as may be found in many popular works on the subject, the elements of natural philosophy may be brought within the comprehension of children under the age of twelve.

With regard to chemistry, the instructor may, as occasion suggests, examine with his pupils the affinity between various substances, their elements, their mutual action, and all attractions and repulsions which form its basis. He should particularly communicate to them information respecting the various bodies and natural elements which are constantly exercising their influence on our condition, and on all things around us, as air, water, steam, gases, light, heat, and electricity; he should explain the nature of bodies in their three states, solid, fluid, and aeriform, their characteristic properties, the laws of composition and decomposition, of evaporation and condensation, of combustion, oxidation, and many other chemical operations of nature or art, which would receive additional interest from experiments introduced for their illustration, or from instances of their application to the arts of modern civilization. Dr. David B. Reid has shown that the leading principles of this science may be easily adapted to the most elementary instruction, and rendered accessible to all classes of society, at such a moderate charge as will not prevent those even in the humbler ranks from attending to them.

All investigations of nature, even those of the most elementary kind, will be found of eminent service in developing and training the mind to habits of observation, inquiry and reflection. They draw attention to natural theology, and are highly calculated to elevate the soul by the admiration which the wonders of creation can not fail to excite, at the same time that they provide young people with an inexhaustible source of mental enjoyment, and afford them positive advantages for the practical purposes of life. This is particularly the case with chemistry, the application of which is so universal and so immediately connected with the arts and all the wants of man. "In this new magic," says Cuvier, "the chemist has only to wish; every thing can be changed into any thing, and any thing can be extracted from every thing." The minds of young persons will be opened to a train of thinking, which, in some, may lead to most important results, if they are occasionally shown by experiments that the infinite varieties of the material world are only different compounds of a few elements.

The thoughts of children may also be directed to their bodily frames, which present all the considerations of color, form, dimension, properties, uses, &c., belonging to matter. The teacher may explain the functions of the sensitive, the vocal, and the muscular organs, the utility of which can be made obvious to the youngest child; he may, as an example of that admirable adaptation to each other of all the parts of the animal economy in man, show them how beautiful is the mechanism of the hand, how wonderfully calculated it is to execute the commands of the human mind. They will thus be impressed with the consciousness of the infinite wisdom of Him who, in making man superior to all other animals by his intellectual powers, has given him the instrument with which he can exercise his sovereignty over the creation.

From a consideration of the external organs he may pass to that of the internal; he may examine with his pupils the functions of the stomach, the lungs, the heart, and the brain; the structure of the bones; the manner in which the different joints, muscles, nerves, and vessels perform their office; their mutual subserviency and happy adaptation to the preservation, strength, motion of the body, in fact to the whole constitution of man. Few subjects are more easily taught orally than physiology and anatomy. The presence of the living body precludes, to a great extent, the necessity of written descriptions, of preparations, models, or skeletons. With instruction on this subject should be combined explanations of the great hygienic principles, the observance of which is indispensable. Young persons

should be made acquainted with the constitution of the atmosphere, and with the relation of its elements to the functions of respiration and to the composition of the blood: they should be shown the influence of exercise on the muscles and bones, on digestion and circulation. They will be less tempted to violate the physical laws of their nature, when they are aware of the consequences of the violation. They will better guard against accident or disease, when they know in what manner the human constitution is influenced by air, food, exercise, and moral causes. Every parent is bound to give to his children that information on which their future existence and well-being so greatly depend. A knowledge of physiology more universally diffused would be a check on medical quackery.

The close dependence and analogy which exist between the functions of the physical and those of the mental faculties, will render inquiries about the latter both easy and interesting. There is nothing, for example, in our introductory Book which may not be made as plain to children twelve or thirteen years old, as any other subject of inquiry to which we have adverted. The study of the mind as well as that of the body, is founded on familiar facts placed within his powers of observation and discrimination. He can early be made to consider the different states and actions of his own mind, and to discriminate between attention and reflection, memory and imagination, judgment and reasoning. He may be made to observe what passes within himself when he receives perceptions, when he associates ideas, when he compares and draws conclusions, when he has desires and contracts habits. He can be shown when he applies properly or otherwise his moral and intellectual faculties. He will thus acquire a knowledge of himself and a habit of self-examination, which will teach him how to use his faculties to the greatest advantage; at the same time that it will make him feel his dignity as an intellectual being and as a creature destined to immortality. "But," says Alison, "the great advantage which he will derive from inquiry into the laws of his own mind, is much less in the addition which it gives to his own power or wisdom, than in the evidence which it affords him of the wisdom with which his constitution is framed, and the magnificent purposes for which it is framed."

To be continued.

III. MATTHEW VASSAR,

AND THE VASSAR FEMALE COLLEGE.

MATTHEW VASSAR, the founder of Vassar Female College, was born in the county of Norfolk, England, in 1702. In 1796, his parents emigrated to America, landing in New York city in December of that year. With a view to an eligible location for a tiller of the soil, his father explored the country, penetrating into the then great West as far as Utica. Not being inclined to settle in the wilderness, he purchased a farm, in the spring of 1797, about three miles east of the city of Poughkeepsie. In the spring of 1798, the father and uncle put into the ground the first barley ever sowed in Dutchess County. The vicinity affording an abundance of wild hops, these gentlemen commenced following the old English custom of making "Home Brewed Ale." The beverage becoming a favorite among the Dutch settlers in the neighborhood, the farm was sold and extensive works for the manufacture of the desired article were erected in the village of Poughkeepsie, in the spring of 1801. Young Matthew was employed about the establishment in such capacity as suited his tender age, but disliking the business, his father proposed to bind him out to learn the trade of a tanner. Not fancying this, the subject of our sketch, now a stout boy of fourteen, resolved to leave his father's roof and seek his fortune. With his entire wardrobe in a red cotton handkerchief, and six shillings in his pocket, he bade a tearful adieu to his aged and beloved mother, and went forth, he knew not whither. Engaging with a country merchant in Orange County, in his adopted State, as second clerk for three years, he was afterwards appointed first clerk for two years, when he returned to his parents with \$150, the net proceeds of five years' industry.

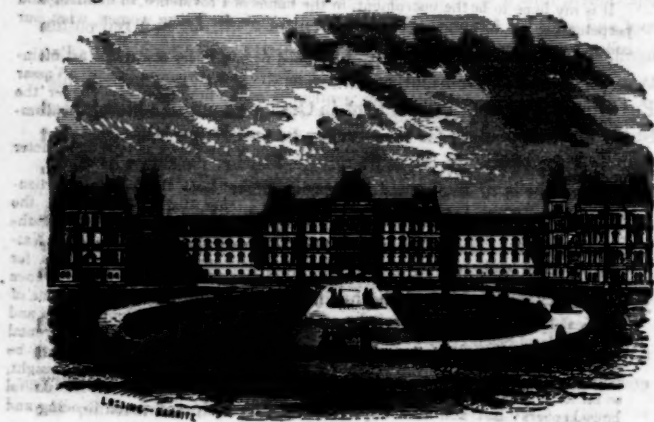
In the year 1812, the brewery built by the elder Vassar was destroyed by fire. This, followed by the sudden death of his elder son John Guy, and other reverses, reduced his circumstances, when young Matthew established the business on a limited scale.

From this humble beginning in an obscure village which afforded few advantages for business, without wealthy friends to assist and encourage him, without capital aside from his own industry, economy, energy and character, arose his colossal fortune, the

benevolent use of which has elevated Matthew Vassar to an honorable place among the world's benefactors; among whom we may here briefly mention his illustrious relative, the great philanthropist, Sir Thomas Guy, founder of the Guy Hospital of London, which Mr. Vassar visited a few years since with reference to the endowment of a similar institution in this country, but upon subsequent reflection decided upon the erection of a College.

Mr. Vassar has long been esteemed by his fellow-citizens for his public spirit, and his liberality toward every enterprise connected with the prosperity of the city in which he resides. His generous contributions toward the erection of churches for various denominations; to the Public Library and the Home of the Friendless; his large donations to literary, religious, and charitable institutions; his liberal responses to the numerous calls which are daily made on his charity, have challenged the regard of all to whom the facts have become known. Yet even the knowledge of all this beneficence scarcely prepared his best friends for the magnificent gift of four hundred thousand dollars, to found and endow a College for the education of young women, as set forth in the following statement, made by Mr. Vassar on the 26th of Feb. 1861, to the gentlemen whom he had selected and had incorporated as the trustees of the funds and securities which he had appropriated for this purpose.

Though suffering somewhat from an attack of paralysis, experienced in the winter of 1859, yet Mr. Vassar's general health is perfectly good—his perceptions clear and quick, and his judgment sound, and we trust he will live many years, to see Vassar Female College in full and successful operation.



MR. VASSAR'S STATEMENT

GENTLEMEN:—As my long-cherished purpose to apply a large portion of my estate to some benevolent object is now about to be accomplished, it seems proper that I should submit to you a statement of my motives, views, and wishes.

It having pleased God that I should have no direct descendants to inherit my property, it has long been my desire, after suitably providing for those of my kindred who have claims on me, to make such a disposition of my means as should best honor God and benefit my fellow-men. At different periods I have regarded various plans with favor, but these have all been dismissed one after another, until the subject of erecting and endowing a college for the education of young women was presented for my consideration. The novelty, grandeur, and benignity of the idea arrested my attention. The more carefully I examined it, the more strongly it commended itself to my judgment and interested my feelings.

It occurred to me, that woman, having received from her Creator the same intellectual constitution as man, has the same right as man to intellectual culture and development.

I considered that the mothers of a country mold the character of its citizens, determine its institutions, and shape its destiny.

Next to the influence of the mother, is that of the female teacher, who is employed to train young children at a period when impressions are most vivid and lasting.

It also seemed to me, that if woman were properly educated, some new avenues to useful and honorable employment, in entire harmony with the gentleness and modesty of her sex, might be opened to her.

It further appeared, there is not in our country—there is not in the world, so far as is known—a single fully-endowed institution for the education of women.

It was also in evidence, that for the last thirty years, the standard of education for the sex has been constantly rising in the United States; and the great, felt, pressing want has been ample endowments, to secure to female seminaries the elevated character, the stability and permanency of our best colleges.

And now, gentlemen, influenced by these and similar considerations, after devoting my best powers to the study of the subject for a number of years past; after duly weighing the objections against it and the arguments that preponderate in its favor; and the project having received the warmest commendations of many prominent literary men and practical educators, as well as the universal approval of the public press, I have come to the conclusion, that the establishment and endowment of a college for the education of young women, is a work which will satisfy my highest aspirations, and will be, under God, a rich blessing to this city and State, to our country and the world.

It is my hope to be the instrument, in the hands of Providence, of founding and perpetuating an institution which shall accomplish for young women, what our colleges are accomplishing for young men.

In pursuance of this design, I have obtained from the legislature an act of incorporation, conferring on the proposed seminary the corporate title of "Vassar Female College," and naming you, gentlemen, as the first trustees. Under the provisions of this charter you are invested with all the powers, privileges, and immunities which appertain to any college or university in this state.

To be somewhat more specific in the statement of my views as to the character and aims of the college:—

I wish that the Course of Study should embrace, at least, the following particulars: The English Language and its Literature; other Modern Languages; the Ancient Classics, so far as may be demanded by the spirit of the times; the Mathematics, to such an extent as may be deemed advisable; all the branches of Natural Science, with full apparatus, cabinets, collections, and conservatories for visible illustration; Anatomy, Physiology, and Hygiene, with practical reference to the laws of the health of the sex; Intellectual Philosophy; the elements of Political Economy; some knowledge of the Federal and State Constitutions and Laws; Moral Science, particularly as bearing on the filial, conjugal, and parental relations; Aesthetics, as treating of the beautiful in Nature and Art, and to be illustrated by an extensive Gallery of Art; Domestic Economy, practically taught, so far as is possible, in order to prepare the graduates readily to become skillful housekeepers; last, and most important of all, the daily, systematic Reading and

Study of the Holy Scriptures, as the only and all-sufficient Rule of Christian faith and practice.

All sectarian influences should be carefully excluded; but the training of our students should never be intrusted to the skeptical, the irreligious, or the immoral.

In forming the first Board of Trustees, I have selected representatives from the principal Christian denominations among us; and in filling the vacancies which may occur in this body, as also in appointing the Professors, Teachers, and other Officers of the College, I trust a like catholic spirit will always govern the Trustees.

It is not my purpose to make VASSAR FEMALE COLLEGE a charity school, whose advantages shall be free to all without charge; for benefits so cheaply obtained are cheaply held; but it is believed the funds of the Institution will enable it to offer to all the highest educational facilities at a moderate expense, as compared with the cost of instruction in existing seminaries. I earnestly hope the funds will also prove sufficient to warrant the gratuitous admission of a considerable number of indigent students, annually—at least, by regarding the amount remitted, in most cases, as a loan, to be subsequently repaid from the avails of teaching, or otherwise. Preference should be given to beneficiaries of decided promise—such as are likely to distinguish themselves in some particular department or pursuit—and, especially, to those who propose to engage in the teaching of the young as a profession.

I desire that the college may be provided with commodious buildings, containing ample apartments for public instruction, and at the same time affording to the inmates the safety, quiet, privacy, and purity of the family.

And now, gentlemen of the Board of Trustees, I transfer to your possession and ownership, the real and personal property which I have set apart for the accomplishment of my designs. I beg permission to add a brief and general expression of my views in regard to the most judicious use and management of the funds.

After the College edifice has been erected, and furnished with all needful aids and appliances for imparting the most perfect education of body, mind, and heart, it is my judgment and wish that the amount remaining in hand should be safely invested—to serve as a principal, only the annual income of which should be expended in the preservation of the buildings and grounds; the support of the faculty; the replenishing and enlarging of the library, cabinet, art gallery, &c., and in adding to the capital stock; so that the College, instead of being impoverished, and tending to decay from year to year, shall always contain within itself the elements of growth and expansion, of increasing power, prosperity, and usefulness.

In conclusion, gentlemen, this enterprise, which I regard as the last great work of my life, I commit to you as a sacred trust, which I feel assured you will discharge with fidelity and uprightness, with wisdom and prudence, with ability and energy.

It is my fervent desire that I may live to see the Institution in successful operation; and if God shall give me life and strength, I shall gladly employ my best faculties in coöperating with you to secure the full and perfect consummation of the work before us.

The title deeds and assignments of stock duly executed by Mr. Vassar, and absolutely and unconditionally gave and conveyed to the Trustees of the Vassar Female College an aggregate of four hundred and eight thousand dollars, made up as follows:—

Real Estate,.....	\$47,000
Bonds and mortgages,.....	41,500
Railroad Stocks,.....	108,500
Bank Stocks,.....	41,000
Railroad Bonds,.....	95,000
United States and State Stocks,.....	75,000
	<hr/>
	\$408,000

The GROUNDS given to the College (200 acres) lie to the east of Poughkeepsie, about one mile distant from the city limits.

IV. THE SCHOOLMASTER.

[Abstract of the First Book of Ascham's Schoolmaster.]

BOOK I. THE BRINGING UP OF YOUTH.

THE title of the first book of the Schoolmaster describes it as "Teaching the Bringing up of Youth;" and it may be said to treat of the general principles according to which the education of children at school ought to be conducted. Much of it has, however, a particular reference to what was then, as it is still, in England, the usual commencement of a liberal education, the study of the Latin tongue,—a subject which is exhaustively treated in the second book and will be omitted in this abstract of the first.

The author then proceeds to the proper subject of this portion of his work, the general manner and temper in which the instruction of youth ought to be conducted;—

"If your scholar do miss sometimes, in marking rightly these foresaid six things, chide not hastily; for that shall both dull his wit, and discourage his diligence; but monish him gently, which shall make him both willing to amend and glad to go forward in love, and hope of learning.

I have now wished twice or thrice this gentle nature to be in a schoolmaster. And that I have done so, neither by chance nor without some reason, I will now declare at large why in mine opinion love is fitter than fear, gentleness better than beating, to bring up a child rightly in learning.

With the common use of teaching, and beating in common schools of England, I will not greatly contend; which if I did, it were but a small grammatical controversy, neither belonging to heresy nor treason, nor greatly touching God nor the prince, although in very deed, in the end, the good or ill bringing up of children, doth as much serve to the good or ill service of God, our Prince, and our whole country, as any one thing doth beside.

I do gladly agree with all good schoolmasters in these points; to have children brought to good perfectness in learning, to all honesty in manners; to have all faults rightly amended; to have every vice severely corrected. But for the order and way that leadeth rightly to these points, we somewhat differ; for commonly many schoolmasters, some as I have seen, more as I have heard tell, be of so crooked a nature, as when they meet with a hard-witted scholar, they rather break him than bow him, rather mar him than mend him. For when the schoolmaster is angry with some other matter, then will he soonest fall to beat his scholar; and though he himself should be punished for his folly, yet must he beat some scholar for his pleasure, though there be no cause for him to do so, nor yet fault in the scholar to deserve so.

These, ye will say, be fond schoolmasters, and few they be, that be found to be such. They be fond, indeed, but surely over many such be found every where. But this will I say, that even the wisest of your great beaters do as

• oft punish nature, as they do correct faults. Yea, many times the better nature
• is sorer punished. For, if one by quickness of wit take his lesson readily,
• another by hardness of wit taketh it not so speedily; the first is always com-
• mended; the other is commonly punished: when a wise schoolmaster should
• rather discreetly consider the right disposition of both their natures, and not so
• much weigh what either of them is able to do now, as what either of them is
• likely to do hereafter. For this I know, not only by reading of books in my
• study, but also by experience of life abroad in the world, that those which be com-
• monly the wisest, the best learned, and best men also, when they be old, were
• never commonly the quickest of wit when they were young. The causes why,
• amongst other, which be many, that move me thus to think, be these few which
• I will reckon.

• Quick wits commonly be apt to take, unapt to keep; soon hot, and desirous
• of this and that; as soon cold, and weary of the same again; more quick to
• enter speedily, than able to pierce far; even like our sharp tools, whose edges
• be very soon turned. Such wits delight themselves in easy and pleasant studies,
• and never pass far forward in high and hard sciences. And therefore the
• quickest wits commonly may prove the best poets, but not the wisest orators:
• ready of tongue to speak boldly, not deep of judgment, either for good counsel,
• or wise writing. Also for manners and life, quick wits commonly be, in desire,
• new-fangled; in purpose, unconstant, light to promise anything, ready to forget
• everything, both benefit and injury; and thereby neither fast to friend, nor
• fearful to foe; inquisitive of every trifle, not secret in the greatest affairs; bold
• with any person; busy in every matter; soothing such as be present, nipping
• any that is absent; of nature also always flattering their betters, envying their
• equals, despising their inferiors; and by quickness of wit, very quick and ready
• to like none so well as themselves.

• Moreover, commonly, men very quick of wit be also very light of conditions;
• and thereby very ready of disposition to be carried over quickly by any light
• company to any riot and unthriftiness when they be young; and therefore
• seldom either honest of life, or rich in living when they be old. For quick in
• wit, and light in manners, be either seldom troubled, or very soon weary in
• carrying a very heavy purse. Quick wits also be in most part of all their doings
• over quick, hasty, rash, heady, and brainsick. These two last words, *heady* and
• *brainsick*, be fit and proper words, rising naturally of the matter, and termed
• aptly by the condition of over-much quickness of wit. In youth also they be
• ready scoffers, privy mockers, and ever over light and merry; in age, soon teaty,
• very waspish, and always over miserable. And yet few of them come to any
• great age, by reason of their misordered life when they were young; but a
• great deal fewer of them come to show any great countenance, or bear any
• great authority abroad in the world; but either live obscurely, men know not
• how, or die obscurely, men mark not when.

• They be like trees, that show forth fair blossom and broad leaves in springs
• time, but bring out small and not long-lasting fruit in harvest time; and that
• only such as fall and rot before they be ripe, and so never or seldom come to
• any good at all. For this you shall find most true by experience, that amongst
• a number of quick wits in youth, few be found in the end either very fortunate
• for themselves, or very profitable to serve the commonwealth, but decay and
• vanish, men know not which way; except a very few, to whom peradventure
• blood and happy parentage may perchance purchase a long standing upon the

stage. The which felicity, because it cometh by others' procuring, not by their own deserving, and stands by other men's feet, and not by their own, what outward brag soever is borne by them, is indeed of itself, and in wise men's eyes, of no great estimation."

The author here gives it as his opinion, that there are certain sciences by the over-much study and use of which "some wits, moderate enough by nature, be many times marred." The sciences against which he thus warns moderate wits are music (in which he is said to have been himself a proficient,) arithmetic, and geometry." "These sciences," he says, "as they sharpen men's wits overmuch, so they change men's manners over sore, if they be not moderately mingled, and wisely applied to some good use of life. Mark all mathematical hends, which be only and wholly bent to those sciences, how solitary they be themselves, how unfit to live with others, and how unapt to serve in the world." In support of this notion he quotes Galen, Plato, and Cicero, as all condemning much music, on the ground that it "marreth men's manners;" and he refers to what he had himself written more at large on the matter, twenty years ago, in his BOOK OF SHOOTING. The passage in the Toxophilus is curious as giving the grounds on which Ascham appears to have taken up these opinions. He there observes that "lutes, harps, barbitons, sambukes, with other instrumentals, every one which standeth by fine and quick fingering, be condemned of Aristotle, as not to be brought in and used among them which study for learning and virtue." Music, he thinks, doth to a man's mind, "as honey doth to a man's stomach, which at first receiveth it well, but afterward it maketh it unfit to abide any strong nourishing meat, or else any wholesome, sharp, and quick drink. And even so in a manner these instruments make a man's wit so soft and smooth, so tender and quaisy, that they be less able to brook strong and tough study. Wits be not sharpened, but rather dulled, and made blunt with such sweet softness, even as good edges be blunted, which men whet upon soft chalk stones."

In the present work he contends, generally, that "overmuch quickness of wit, either given by nature, or sharpened by study, doth not commonly bring forth either greatest learning, best manners, or happiest life in the end." The sense in which he makes this proposition, as well as the reasons by which he defends it, will be understood from the passage that follows:—

"Contrarywise, a wit in youth that is not over dull, heavy, knotty, and lumpish; but hard, tough, and though somewhat stoffish, (as Tully wisheth *otium quietum non languidum*, and *negotium cum labore, non cum periculo*)* such a wit, I say, if it be at the first well handled by the mother, and rightly smoothed and wrought as it should, not overthwartly and against the wood by the schoolmaster, both for learning and whole course of living, proveth always the best. In wood and stone, not the softest, but hardest, be always aptest for portraiture, both fairest for pleasure, and most durable for profit. (Hard wits be hard to receive, but sure to keep; painful without weariness, heedful without wavering, constant without newfangledness; bearing heavy things, though not lightly, yet willingly; entering hard things, though not easily, yet deeply; and so come to that perfectness of learning in the end, that quick wits seem in hope, but do not in deed, or else very seldom, ever attain unto.

* i. e. Leisure which is quiet, but not languid; and business attended with exertion, but not with danger.

Also for manners and life, hard wits commonly are hardly carried, either to desire every new thing, or else to marvel at every strange thing. And therefore they be careful and diligent in their own matters, not curious and busy in other men's affairs; and so they become wise themselves, and also are counted honest by others. They be grave, steadfast, silent of tongue, secret of heart; not hasty in making, but constant in keeping any promise; not rash in uttering, but wary in considering every matter; and thereby not quick in speaking, but deep of judgment, whether they write or give counsel in all weighty affairs. And these be the men that become in the end both most happy for themselves, and also always best esteemed abroad in the world.

I have been longer in describing the nature, the good or ill success of the quick and hard wits, than perchance some will think this place and matter doth require. But my purpose was hereby plainly to utter what injury is offered to all learning, and to the commonwealth also, first by the fond father in choosing, but chiefly by the lewd* schoolmaster in beating and driving away the best natures from learning. A child that is still, silent, constant, and somewhat hard of wit, is either never chosen by the father to be made a scholar, or else when he cometh to the school, he is smally regarded, little looked unto; he lacketh teaching, he lacketh encouraging, he lacketh all things; only he never lacketh beating, nor any word that may move him to hate learning, nor any deed that may drive him from learning to any other kind of living.

And when this sad-natured, and hard-witted child is beat from his book, and becometh after either student of the common law, or page in the court, or serving-man, or bound prentice to a merchant, or to some handicraft, he proveth in the end wiser, happier, and many times honest too, than many of these quick wits do by their learning.

Learning is both hindered and injured too by the ill choice of them that send young scholars to the universities, of whom must needs come all our divines, lawyers, and physicians.

These young scholars be chosen commonly, as young apples be chosen by children in a fair garden, about St. James tide. A child will choose a sweeting, because it is presently fair and pleasant, and refuse a runnet, because it is then green, hard, and sour; when the one, if it be eaten, doth breed both worms and ill humors; the other, if it stand his time, be ordered and kept as it should, is wholesome of itself, and helpeth to the good digestion of other meats. Sweetings will receive worms, rot, and die on the tree, and never or seldom come to the gathering for good and lasting store.

For very grief of heart I will not apply the similitude; but hereby is plainly seen, how learning is robbed of the best wits, first, by the great beating, and after by the ill-choosing of scholars to go to the universities: whereof cometh partly that lewd and spiteful proverb, sounding to the great hurt of learning, and shame of learned men, that 'the greatest clerks be not the wisest men.'

And though I, in all this discourse, seem plainly to prefer hard and rough wits, before quick and light wits, both for learning and manners; yet I am not ignorant that some quickness of wit is a singular gift of God, and so most rare among men: and, namely, such a wit as is quick without lightness, sharp without brittleness, desirous of good things without newfangledness, diligent in painful things without wearisomeness, and constant in good will to do all things well; as I know was

* i. e. The intemperate.

in Sir John Cheke, and is in some that yet live, in whom all these fair qualities of wit are fully met together.

But it is notable and true, that Socrates saith in Plato to his friend Phædo, 'That that number of men is fewest, which far exceed, either in good or ill, in wisdom or folly; but the mean betwixt both be the greatest number.' Which he proveth true in divers other things; as in greyhounds, amongst which few are found exceeding great, or exceeding little, exceeding swift, or exceeding slow. And, therefore, speaking of quick and hard wits, I meant the common number of quick and hard wits; amongst the which, for the most part, the hard wit proveth many times the better learned, wiser, and honest man. And therefore do I the more lament that such wits commonly be either kept from learning by fond fathers, or beat from learning by lewd schoolmasters."

The author proceeds to say that he might here declare "the most special notes of a good wit for learning in a child, after the manner and custom of a good horseman, who is skillful to know, and able to tell others, how by certain sure signs a man may choose a colt that is like to prove another day excellent for the saddle." "And it is a pity," he adds, with keen and indignant sarcasm, "that commonly more care is had, yea and that among very wise men, to find out rather a cunning man for their horse, than a cunning man for their children. They say nay in a word, but they do so in deed; for to the one they will gladly give a stipend of two hundred crowns by the year, and loth to offer to the other, two hundred shillings. God that sitteth in heaven laugheth their choice to scorn, and rewardeth their liberality as it should. For he suffereth them to have tame and well-ordered horses, but wild and unfortunate children; and therefore in the end they find more pleasure in their horses, than comfort in their children."

Instead, however, of giving his own opinion as to the true marks of promise in a child, he prefers reporting "the judgment of him that was counted the best teacher and wisest man that learning maketh mention of," namely Socrates, as his words are recorded by Plato, in the seventh book of his Republic. From what Socrates says, he extracts "seven true notes of a good wit," which he explains in succession.

"First, the child must be *ἔφερος*, that is, "apt bygoodness of wit, and applicable by readiness of will, to learning, having all other qualities of the mind and parts of the body, that must another day serve learning." Among such qualifications, Ascham lays great stress upon a comely countenance and a goodly stature; and he laments that fathers, when out of several sons they have one that is lame or deformed, are too apt to put that one to learning, "as good enough to become a scholar." He hints that the civil magistrate ought to interfere to prevent this abuse.

Secondly, the child ought to be *μνησικος*, which he intreprets "good for memory." This he says is "so principal a note, as without it all other gifts of nature do small service to learning." "And though," he adds, "it be the mere gift of nature, yet is memory well preserved by use, and much increased by order, as our scholar must learn another day in the University. But in a child a good memory is well known by three properties; that is, if it be quick in receiving, sure in keeping, and ready in delivering forth again."

The third note is that he be *φιλαμαθης*, that is, "given to love learning, for though a child have all the gifts of nature at wish, and perfection of memory

at will, yet if he have not a special love to learning he shall never attain to much learning." "Isocrates," he adds, "did cause to be written at the entry of his school in golden letters this golden sentence, 'Εάν τις φιλομαθῆς, ἴσῃ πολυμαθῆς'; which excellently said in Greek, is thus rudely in English: "If thou love learning, thou shalt attain to much learning."

4 Fourthly, the child should be φιλόκοπος, that is, should have "a lust to labor, and a will to take pains; for if a child have all the benefits of nature, with perfection of memory, love, life, and praise learning never so much; yet if he be not of himself painful, he shall never attain unto it. And yet where love is present, labor is seldom absent, and namely in study of learning, and matter of the mind.

5 Fifthly, he must be φιλόκοπος, that is, "glad to hear and learn of another; for otherwise he shall stick with great trouble, where he might go easily forward; and also catch hardly a very little by his own toil, when he might gather quickly a good deal by another man's teaching."

6 The sixth mark is that he be Ζηρητής, that is, "naturally bold to ask any question, desirous to search out any doubt; not ashamed to learn of the meanest, nor afraid to go to the greatest, until he be perfectly taught and fully satisfied."

7 Lastly, the author (employing, however, a word which is not in Plato) enumerates as one of the characteristics demanded in the child by Socrates, that he be φιλότιμος, that is, one "that loveth to be praised for well doing at his father or master's hand."

"And thus," he concludes, "by Socrates' judgment, a good father and a wise schoolmaster should choose a child to make a scholar of, that hath by nature the foresaid perfect qualities and comely furniture both of mind and body; hath memory quick to receive, sure to keep and ready to deliver; hath love to learning; hath lust to labor; hath desire to learn of others; hath boldness to ask any question; hath mind wholly bent to win praise by well doing. The two first of these qualities he considers to be special benefits of nature, yet to be preserved and much increased by discipline. The five last are to be wholly won and maintained by the wisdom and discretion of the schoolmaster. "Which five points," he proceeds, "whether a schoolmaster shall work sooner in a child by fearful beating, or courteous handling, you that be wise, judge.

Yet some men, wise indeed, but, in this matter, more by severity of nature than any wisdom at all, do laugh at us when we thus wish and reason, that young children should rather be allured to learning by gentleness and love, than compelled to learning by beating and fear. They say, "our reasons serve only to breed forth talk, and pass away the time; but we never saw good schoolmasters do so, nor never read of wise men that thought so."

In opposition to this doctrine, Ascham quotes from Plato the precept of Socrates, that no learning ought to be learnt with bondage. "And why?" he adds of himself, "For whatsoever the mind doth learn unwillingly with fear, the same it doth gladly forget without care." He goes on to show that it is expressly of the teaching of children that Socrates in the passage quoted speaks. He then proceeds as follows:

"Fond schoolmasters neither can understand, nor will follow this good counsel of Socrates; but wise riders in their office can, and will do both; which is the only cause that commonly the young gentlemen of England go so unwill-

lingly to school; and run so fast to the stable. For in very deed, fond schoolmasters by fear do beat into them the hatred for learning; and wise riders, by gentle allurements, do breed up in them the love of riding. They find fear and bondage in schools, they feel liberty and freedom in stables; which causes them utterly to abhor the one, and most gladly to haunt the other. And I do not write this, that in exhorting to the one, I would dissuade young gentlemen from the other: yea I am sorry with all my heart that they be given no more to riding than they be. For of all outward qualities, to ride fair is most comely for himself, most necessary for his country; and the greater he is in blood, the greater is his praise, the more he doth exceed all other therein. It was one of the three excellent praises amongst the noble gentlemen, the old Persians: 'Always to say truth, to ride fair, and shoot well;' and so it was engraven upon Darius' tomb, as Strabo witnesseth:—

Darius the king lieth buried here,
Who in riding and shooting had never peer."

He next takes up an objection which may be brought against his argument: "Yet some will say that children of nature love pastime, and dislike learning, because in their kind the one is easy and pleasant, the other hard and wearisome. Which is an opinion not so true as some men ween. For the matter lieth not so much in the disposition of them that be young, as in the order and manner of bringing up by them that be old; nor yet in the difference of learning and pastime. For beat a child if he dance not well, and cherish him though he learn not well, ye shall have him unwilling to go to dance, and glad to go to his book; knock him always when he draweth his shaft ill, and favor him again though he fault at his book, ye shall have him very loth to be in the field, and very willing to go to school. Yea, I say more, and not of myself, but by the judgment of those, from whom few wise men will gladly dissent,—that if ever the nature of man be given at any time, more than other, to receive goodness, it is in innocency of young years, before that experience of evil have taken root in him. For the pure clean wit of a sweet young babe is like the newest wax, most able to receive the best and fairest printing; and like a new bright silver dish never occupied, to receive and keep clean any good thing that is put into it."

Some further illustration follows of the facility with which impressions, whether good or evil, may be made upon the youthful mind; and then comes a passage too interesting not to be given in full:—

"And one example, whether love or fear doth work more in a child for virtue and learning, I will gladly report, which may be heard with some pleasure, and followed with more profit.

Before I went into Germany, I came to Brodegate in Leicestershire, to take my leave of that noble Lady Jane Grey, to whom I was exceeding much beholden. Her parents, the Duke and Duchess, with all the household, gentlemen and gentlewomen, were hunting in the park. I found her in her chamber reading 'Phædo Platonis,' in Greek, and that with as much delight as some gentlemen would read a merry tale in Boccace. After salutation and duty done, with some other talk, I asked her why she would lose such pastime in the park? Smiling, she answered me: 'I wist, all their sport in the park is but a shadow to that pleasure that I find in Plato. Alas! good folk, they

never felt what true pleasure meant.' 'And how came you, Madam,' quoth I, 'to this deep knowledge of pleasure? And what did chiefly allure you unto it, seeing not many women, but very few men, have attained thereunto?' 'I will tell you,' quoth she, 'and tell you a truth which perchance ye will marvel at. One of the greatest benefits that ever God gave me, is that he sent me so sharp and severest parents, and so gentle a schoolmaster. For when I am in presence either father or mother, whether I speak, keep silence, sit, stand, or go, eat, drink, be merry, or sad, be sewing, playing, dancing, or doing anything else, I must do it, as it were, in such weight, measure, and number, even so perfectly, as God made the world; or else I am so sharply taunted, so cruelly threatened, yea presently sometimes with pinches, nips, and bobs, and other ways (which I will not name for the honor I bear them,) so without measure misordered, that I think myself in hell, till time come that I must go to Mr. Elmer, who teacheth me so gently, so pleasantly, with such fair allurements to learning, that I think all the time nothing while I am with him. And when I am called from him, I fall on weeping, because whatsoever I do else, but learning, is full of grief, trouble, fear, and whole misliking unto me. And thus my book hath been so much my pleasure, and bringeth daily to me more pleasure and more, that in respect of it all other pleasures in very deed be but trifles and troubles unto me.'

I remember this talk gladly, both because it is so worthy of memory, and because also it was the last talk that ever I had, and the last time that ever I saw that noble and worthy lady."

For a perfect discussion of this part of his subject, Ascham refers the reader to the treatise "*De Institutione Principis*," (On the Education of a Prince) addressed by his friend John Sturmius to the Duke of Cleves. Although, however, he is for the use of gentleness rather than severity in the instruction of youth at school, he does not dispute the necessity of sharp chastisement by parents for correcting vicious habits in their children.

This discipline was well known and diligently used among the Grecians and old Romans; as doth appear in Aristophanes, Isocrates, and Plato, and also in the comedies of Plautus; where we see that children were under the rule of three persons, a schoolmaster, governor, and father. The schoolmaster taught him learning with all gentleness; the governor corrected his manners with much sharpness; the father held the stern of his whole obedience. And so he that used to teach did not commonly use to beat, but remitted that over to another man's charge. But what shall we say, when now in our days the schoolmaster is used both for preceptor in learning, and *pædagogus* in manners? Surely, I would he should not confound their offices, but discreetly use the duty of both, so that neither ill touches should be left unpunished, nor gentleness in teaching anywise omitted. And he shall well do both, if wisely he do appoint diversity of time, and separate place, for either purpose; using always such discreet moderation, as 'the school-house should be counted a sanctuary against fear; and very well learning a common pardon for ill doing, if the fault of itself be not over heinous.'

The author considers the second great fault of English education in his time to be the license that was allowed to young men after leaving school. He contrasts with the prevailing manners, the more strict discipline of wise antiquity, when, for instance, "no son, were he never so old in years, never so great in birth, though he were a king's son, might marry but by his father's

and mother's consent." Having quoted to this effect the examples of Cyrus and Sampson, he exclaims: "Doth this modesty, doth this obedience that was in great King Cyrus, and strong Sampson, remain in our young men at this day? No surely, for we live not longer after them by time, than we live far different from them by good order. Our time is so far from that old discipline and obedience, as now not only young gentlemen, but even very girls, dare without all fear, though not without open shame, where they list, and how they list, marry themselves in spite of father, mother, God, good order, and all." This evil he says, is peculiar to the children of the rich and great, as they deserve it should be. From seven to seventeen, young gentlemen are carefully enough brought up; but from seventeen to seven-and-twenty (which Xenophon calls the most dangerous time of all man's life, and most slippery to stay well in,) "they have commonly the rein of all license in their own hand, and specially such as do live in the court." "And that," he adds, "which is most to be marvelled at, commonly the wisest, and also best men, be found the fondest fathers in this behalf. And if some good father will seek some remedy herein, yet the mother (if the household of our lady) had rather, yea, and will have her son cunning and bold, in making him to live trimly, when he is young, than by learning and travel to be able to serve his prince and his country, both wisely in peace, and stoutly in war, when he is old."

"The fault is in yourselves, ye noblemen's sons, and therefore ye deserve the greater blame, that commonly the meaner men's children come to be the wisest counsellors, and greatest doers in the weighty affairs of this realm. And why? for God will have it so of his providence, because you will have it no otherwise by your negligence.

And God is a good God, and wisest in all his doings, that will place virtue, and displace vice in those kingdoms where he doth govern. 'For he knoweth that nobility, without virtue and wisdom, is blood indeed, but blood truly without bones and sinews; and so of itself, without the other, very weak to bear the burthen of weighty affairs.'

The greatest ship indeed commonly carrieth the greatest burthen, but yet always with the greatest jeopardy, not only for the persons and goods committed unto it, but even for the ship itself, except it be governed with the greater wisdom.

But nobility, governed by learning and wisdom, is indeed most like a fair ship, having tide and wind at will, under the rule of a skillful master; when contrarywise, a ship carried, yea with the highest tide and greatest wind, lacking a skillful master, most commonly doth either sink itself upon sands, or break itself upon rocks. And even so, how many have been either drowned in vain pleasure, or overwhelmed by stout willfulness, the histories of England be able to afford over many examples unto us. Therefore, ye great and noblemen's children, if ye will have rightly that praise, and enjoy surely that place, which your fathers have, and elders had, and left unto you, ye must keep it, as they gat it; and that is, by the only way of virtue, wisdom, and worthiness."

In some passages that follow, the manners of the court, and the habits of thinking and judging that prevailed there, are very severely reprobated. There were then, indeed, the author allows, many fair examples in the English court for young gentlemen to follow; "but they be," he says, "like fair marks in the field, out of a man's reach, too far off to shoot at well." Young gentlemen

who come to court are commonly obliged to associate with the worst description of characters there. These are they who laugh at quietness of nature as simpleness and lack of wit, and at bashful and blushing modesty as babyishness and ill-breeding. What is learned from their company is, first, to blush at nothing; "then followeth to dare do any mischief; to condemn stoutly any goodness; to be busy in every matter; to be skillful in every thing; to acknowledge no ignorance at all." "Moreover," he continues, "where the *ewing* goeth, there to follow, fawn, flatter, laugh, and lie lustily at other men's liking; to face, stand foremost, shove back; and to the meaner man, or unknown in the court, to seem somewhat solemn, coy, big, and dangerous of look, talk, and answer; to think well of himself, to be lusty in contemning of others, to have some trim grace in a privy mock: and, in greater presence, to bear a brave look; to be warlike, though he never looked enemy in the face in war; yet some warlike sign must be used, either a slovenly buskin, or an over-staring frowned head, as though out of every hair's top should suddenly start out a good big oath when need requireth. Yet, praised be God! England hath at this time many worthy captains and good soldiers, which be indeed so honest of behavior, so comely of conditions, so mild of manners, as they may be examples of good order to a good sort of others, which never came in war."

Something, he considers, may be done to remedy these evils by good laws; but the object is perhaps chiefly to be effected by "observing private discipline, every man carefully in his own house; and namely, if special regard be had to youth, and that not so much in teaching them what is good, as in keeping them from that that is ill." "In youth," he says, "some ignorance is as necessary as much knowledge;" "but this ignorance in youth," he adds, "which I speak on, or rather this simplicity, or most truly this innocency, is that which the noble Persians, as wise Xenophon doth testify, were so careful to breed up their youth in. But Christian fathers commonly do not so.

"And to know what worthy fruit did spring of such worthy seed, I will tell you the most marvel of all, and yet such a truth as no man shall deny it, except such as be ignorant in knowledge of the best stories.

Athens, by this discipline and good ordering of youth, did breed up, within the circuit of that one city, within the compass of one hundred years, within the memory of one man's life, so many notable captains in war, for worthiness, wisdom, and learning, as be scarce matchable, no, not in the state of Rome, in the compass of those seven hundred years when it flourished most.

And because I will not only say it, but also prove it, the names of them be these—Miltiades, Themistocles, Xantippus, Pericles, Cimon, Alcibiades, Thrasybulus, Conon, Iphicrates, Xenophon, Timotheus, Theopompus, Demetrius, and divers others more; of which every one may justly be spoken that worthy praise which was given to Scipio Africanus, who Cicero doubteth 'whether he were more noble captain in war, or more eloquent and wise counsellor in peace.' And if ye believe not me, read dilligently *Æmilius Probus** in Latin, and Plutarch in Greek, which two had no cause either to flatter or lie upon any of those which I have recited.

And beside nobility in war, for excellent and matchless masters in all manner of learning, in that one city, in memory of one age, were more learned men, and that in a manner altogether, than all time doth remember, than all place

* He means the lives now commonly held to be written by Cornelius Nepos.

doth afford, than all other tongues do contain. And I do not mean of those authors which by injury of time, by negligence of men, by cruelty of fire and sword, be lost, but even of those which by God's grace are left yet unto us, of which, I thank God, even my poor study lacketh not one. As in philosophy, Plato, Aristotle, Xenophon, Euclid, and Theophrast; in eloquence and civil law, Demosthenes, Æschines, Lycurgus, Dinarchus, Demades, Isocrates, Isæus, Lysias, Antisthenes, Andocides; in History, Herodotus, Thucydides, Xenophon, and which we lack, to our great loss, Theopompus and Ephorus; in poetry, Æschylus, Sophocles, Euripides, Aristophanes, and somewhat of Menander Demosthenes' sister's son.

The remembrance of such a commonwealth, using such discipline and order for youth, and thereby bringing forth to their praise, and leaving to us for our example, such captains for war, such counsellors for peace, and matchless masters for all kind of learning, is pleasant for me to recite, and not irksome, I trust, for others to hear, except it be such as make neither account of virtue nor learning.

And whether there be any such or no, I cannot well tell; yet I hear say, some young gentlemen of ours count it their shame to be counted learned, and perchance they count it their shame to be counted honest also, for I hear say they meddle as little with the one as with the other. A marvellous case, that gentlemen should be so ashamed of good learning, and never a whit ashamed of ill manners! Such do say for them, that the gentlemen of France do so; which is a lie, as God will have it. Langæus and Belleus, that be dead, and the noble Vidam of Chartres, that is alive, and infinite more in France which I hear tell of, prove this to be most false. And though some in France, which will needs be gentlemen, whether men will or no, and have more gentleship in their hat than in their head, be at deadly feud with both learning and honesty; yet I believe, if that noble prince, King Francis the First, were alive, they should have neither place in his court nor pension in his wars, if he had knowledge of them. This opinion is not French, but plain Turkish, from whence some French fetch more faults than this, which I pray God keep out of England, and send also those of ours better minds, which bend themselves against virtue and learning, to the contempt of God, dishonor of their country, to the hurt of many others, and at length to the greatest harm and utter destruction of themselves.

Some others, having better nature, but less wit (for ill commonly have overmuch wit,) do not utterly dispraise learning, but they say, that, without learning, common experience, knowledge of all fashions, and haunting all companies, shall work in youth both wisdom and ability to execute any weighty affair. Surely long experience doth profit much, but most, and almost only to him (if we mean honest affairs) that is diligently before instructed with precepts of well-doing. For good precepts of learning be the eyes of the mind, to look wisely before a man which way to go right, and which not.

Learning teacheth more in one year than experience in twenty; and learning teacheth safely, when experience maketh more miserable than wise. He hazardeth sore that waxeth wise by experience. An unhappy master is he that is made cunning by many shipwrecks; a miserable merchant, that is neither rich nor wise but after some bankrupts. It is costly wisdom that is bought by experience. We know by experience itself, that it is a marvellous pain to find out a short way but by long wandering; and surely he that would

growe wise by experience, he may be witty indeed, but even like a swift runner, that runneth fast out of the way, and upon the night, he knoweth not whither. And verily they be fewest in number that be wise by unlearned experience. And look well upon the former life of those few, whether your example be old or young, who, without learning, have gathered by long experience a little wisdom and some happiness; and when you do consider what mischief they have committed, what dangers they have escaped (and yet twenty for one do perish in the adventure,) then think well with yourself whether ye would that your own son should come to wisdom and happiness by the way of such experience or no.

It is a notable tale, that old Sir Roger Chamloe, some time Chief-Justice, would tell of himself. When he was Ancient in inn of court, certain young gentlemen were brought before him, to be corrected for certain misorders; and one of the lustiest said, 'Sir, we be young gentlemen; and wise men before us have proved all fashions, and yet those have done full well.' This they said, because it was well known that Sir Roger had been a goodfellow in his youth. But he answered them very wisely. 'Indeed,' saith he, 'in youth I was as you are now; and I had twelve fellows like unto myself, but not one of them came to a good end. And therefore, follow not my example in youth, but follow my counsel in age, if ever ye think to come to this place, or to these years that I am come unto, lest ye meet either with poverty or Tyburn in the way.'

Although thus jealous, however, of the effects of teaching by experience, and earnestly in favor of the method of at least laying the foundations of knowledge in the young mind chiefly by learning and good bringing up, Ascham would by no means have the whole time of youth to be spent in study.

"I do not mean, by all this my talk, that young gentlemen should always be poring on a book, and by using good studies should lose honest pleasure, and haunt no good pastime; I mean nothing less. For it is well known that I both like and love, and have always, and do yet still use all exercises and pastimes that be fit for my nature and ability. And beside natural disposition, in judgment also I was never either Stoic in doctrine or Anabaptist in religion, to mislike a merry, pleasant, and playful nature, if no outrage be committed against law, measure, and good order."

"Therefore, to ride comely, to run fair at the tilt or ring, to play at all weapons, to shoot fair in bow, or surely in gun, to vault lustily, to run, to leap, to wrestle, to swim, to dance comely, to sing and play on instruments cunningly, to hawk, to hunt, to play at tennis, and all pastimes generally which be joined with labor used in open place, and on the daylight, containing either some fit exercise for war, or some pleasant pastime for peace, be not only comely and decent, but also very necessary for a courtly gentlemen to use."

Returning to the subject of joining learning with comely exercises, he highly recommends the work of Conto Baldesar Castiglione, entitled "*Il Cortigiano*," (the Courtier,) as excellently translated into English by Sir Thomas Hobby, "which book," says he, "advisedly read and diligently followed but one year at home in England, would do a young gentleman more good, I wise, than three years travel abroad spent in Italy." "But the English court," he adds, "has never lacked many fine examples for young gentlemen to follow." Among these he mentions the late King Edward, "and in the second degree, two noble

primroses of nobility, the young Duke of Suffolk and Lord Henry Malavers, who, he says, "were two such examples to the court for learning, as our time may rather wish than look for again." At St. John's College, Cambridge, also, he commemorates Sir John Cheke and Dr. Redmayn as having, in his time, done more by their example than the good statutes of the college themselves did "to breed up learned men, of whom there were so many," says he, "in that one College of St. John's, at one time, as I believe the whole University of Lovain, in many years, was never able to afford."

He then proceeds: "Present examples of this present time I list not to touch; yet there is one example for all the gentlemen of this court to follow, that may well satisfy them, or nothing will serve them, nor no example move them to goodness and learning."

"It is your shame (I speak to you all, you young gentlemen of England,) that one maid should go beyond you all in excellency of learning and knowledge of divers tongues. Point forth six of the best given gentlemen of this court, and all they together show not so much good will, spend not so much time, bestow not so many hours daily, orderly, and constantly, for the increase of learning and knowledge, as doth the Queen's Majesty herself. Yea I believe, that beside her perfect readiness in Latin, Italian, French and Spanish, she readeth here now at Windsor more Greek every day than some prebendary of this church doth read Latin in a whole week. And that which is most praiseworthy of all, within the walls of her privy chamber, she hath obtained that excellency of learning to understand, speak, and write both wittily with head and fair with hand, as scarce one or two rare wits in both the Universities have in many years reached unto. Amongst all the benefits that God hath blessed me withal, next the knowledge of Christ's true religion, I count this the greatest, that it pleased God to call me to be one poor minister in setting forward these excellent gifts of learning in this most excellent Prince; whose only example, if the rest of our nobility would follow, then might England be, for learning and wisdom in nobility, a spectacle to all the world beside. But see the mishap of men; the best examples have never such force to move to any goodness, as the bad, vain, light, and fond have to all illness."

"Take heed, therefore, ye great ones in the Court, yea though ye be the greatest of all, take heed what ye do, take heed how ye live, for as you great ones use to do, so all mean men love to do. You be indeed makers, or marrers of all men's manners within the realm."

Returning from this digression, the author states the sum of what he has hitherto delivered to be, "that from seven year old to seventeen, love is the best allurements to learning; from seventeen to seven-and-twenty, that wise men should carefully see the steps of youth surely staid by good order, in that most slippery time, and specially in the court;" and he then proceeds as follows:—

"Sir Richard Sackville, that worthy gentleman of worthy memory, as I said in the beginning, in the Queen's privy chamber at Windsor, after he had talked with me for the right choice of good wit in a child for learning; and of the true difference betwixt quick and hard wits; of alluring young children by gentleness to love learning; and of the special care that was to be had to keep young men from licentious living; he was most earnest with me to have me say my mind also what I thought concerning the fancy that many young gentlemen of

England have to travel abroad, and namely to lead a long life in Italy. His request, both for his authority and good will toward me, was a sufficient commandment unto me to satisfy his pleasure with uttering plainly my opinion in that matter. 'Sir,' quoth I, 'I take going thither, and living there, for a young gentleman, that doth not go under the keep and guard of such a man as both by wisdom can, and authority dare rule him, to be marvellous dangerous.' * *

"But to my matter; as I began plainly and simply with my young scholar, so will I not leave him, God willing, until I have brought him a perfect scholar out of the school, and placed him in the University, to become a fit student for logic, and rhetoric, and so after to phisic, law, or divinity, as aptness of nature, advice of friends, and God's disposition shall lead him."

II. THE READY WAY TO THE LATIN TONGUE.

We shall commence an abstract of the *Second Book* of the Schoolmaster, by introducing the opening passages of the First, which were omitted in their place, as belonging more appropriately to the subject matter of this:

"After the child hath learned perfectly the eight parts of speech, let him then learn the right joining together of substantives with adjectives, the noun with the verb, the relative with the antecedent. And in learning farther his syntaxis, by mine advice he shall not use the common order in common schools for making of Latins, whereby the child commonly learneth, first, an evil choice of words (and 'right choice of words,' saith Cæsar, 'is the foundation of eloquence,') then a wrong placing of words, and, lastly, an ill framing of the sentence, with a perverse judgment both of words and sentences. These faults, taking once root in youth, be never, or hardly plucked away in age. Moreover, there is no one thing that hath more either dulled the wits or taken away the will of children from learning, than the care they have to satisfy their masters in making of Latins.

For the scholar is commonly beat for the making, when the master were more worthy to be beat for the mending, or rather marring of the same, the master many times being as ignorant as the child what to say properly and fitly to the matter.

Two schoolmasters have set forth in print, either of them, a book of such kind of Latins, Horman and Whittington. A child shall learn of the better of them that which, another day, if he be wise and come to judgment, he must be fain to unlearn again.

There is a way touched in the first book of Cicero de Oratore, which wisely brought into schools, truly taught, and constantly used, would not only take wholly away this butcherly fear in making of Latins, but would also with ease and pleasure, and in short time, as I know by good experience, work a true choice and placing of words, a right ordering of sentences, an easy understanding of the tongue, a readiness to speak, a facility to write, a true judgment both of his own and other men's doings, what tongue soever he doth use.

The way is this: After the three concordances learned, as I touched before, let the master read unto him the Epistles of Cicero, gathered together and chosen out by Sturnius for the capacity of children.

First, let him teach the child cheerfully and plainly the cause and matter of the Letter: then let him construe it into English, so oft as the child may easily carry away the understanding of it; lastly, parse it over perfectly. This done thus let the child, by and by, both construe and parse it over again; so that it

may appear that the child doubteth in nothing that his master taught him before. After this, the child must take a paper book, and sitting in some place where no man shall prompt him, by himself, let him translate into English his former lesson. Then, showing it to his master, let the master take from him his Latin book, and pausing an hour at least, then let the child translate his own English into Latin, again in another paper book. When the child bringeth it turned into Latin, the master must compare it with Tully's book, and lay them both together; and where the child doth well, either in choosing or true, placing Tully's words, let the master praise him, and say, 'Here you do well;' for I assure you there is no such whetstone to sharpen a good wit, and encourage a will to learning, as is praise.

But if the child miss, either in forgetting a word, or in changing a good with a worse, or misordering the sentence, I would not have the master either frown, or chide with him, if the child hath done his diligence and used no truantship therein; for I know by good experience, that a child shall take more profit of two faults gently warned of, than of four things rightly hit; for then the master shall have good occasion to say unto him, 'Tully would have used such a word, not this; Tully would have placed this word here, not there: would have used this case, this number, this person, this degree, this gender; he would have used this mood, this tense, this simple rather than this compound; this adverb here, not there; he would have ended the sentence with this verb, not with that noun or participle,' &c.

In these few lines I have wrapped up the most tedious part of grammar, and also the ground of almost all the rules that are so busily taught by the master, and so hardly learned by the scholar in all common schools, which after this sort the master shall teach without all error, and the scholar shall learn without great pain; the master being led by so sure a guide, and the scholar being brought into so plain and easy a way. And therefore we do not condemn rules, but we gladly teach rules, and teach them more plainly, sensibly, and orderly than they be commonly taught in common schools. For when the master shall compare Tully's book with the scholar's translation, let the master at the first lead and teach his scholar to join the rules of his grammar book with the examples of his present lesson, until the scholar by himself be able to fetch out of his grammar every rule for every example, so as the grammar book be ever in the scholar's hand, and also used of him as a dictionary for every present use. This is a lively and perfect way of teaching of rules; where the common way used in common schools, to read the grammar alone by itself, is tedious for the master, hard for the scholar, cold and uncomfortable for them both.

Let your scholar be never afraid to ask you any doubt, but use discreetly the best allurements you can to encourage him to the same, lest his overmuch fearing of you drive him to seek some disorderly shift, as to seek to be helped by some other book, or to be prompted by some other scholar, and so go about to beguile you much, and himself more.

With this way of good understanding the matter, plain construing, diligent parsing, daily translating, cheerful admonishing, and heedful amending of faults, never leaving behind just praise for well doing, I would have the scholar brought up withal, till he had read and translated over the first book of Epistles chosen out by Sturmius, with a good piece of a comedy of Terence also.

All this while, by mine advice, the child shall use to speak no Latin; for, as Cicero saith in like matter, with like words, *Loquendo, malè loqui discunt*; and

that excellent learned man G. Budæus, in his Greek commentaries, sore complaineth, that when he began to learn the Latin tongue, use of speaking Latin at the table and elsewhere unadvisedly did bring him to such an evil choice of words, to such a crooked framing of sentences, that no one thing did hurt or hinder him more all the days of his life afterwards, both for readiness in speaking, and also good judgment in writing."

Upon the subject of speaking Latin, the author admits that if children could be brought up in a house or a school in which the Latin tongue was properly and perfectly spoken, then the daily use of speaking would be the best and readiest way to learn the language. But in the best schools in England he contends that no such constant propriety of expression was to be heard. If the object therefore be that the scholar shall learn not only to speak Latin, but to speak it well, our author's opinion is that he will best acquire this faculty by use of writing.

After some time when the scholar is found to perform this first kind of exercise with increasing ease and correctness, he must have longer lessons to translate; and must also be introduced to the second stage in the order of teaching; that is to say, he is to be taught to know and distinguish, both in nouns and verbs, what is *proprium* (literal,) and what is *translatum* (metaphorical;) what *synonymum* (synonymous,) what *diversum* (differing in signification in certain respects;) which words are *contraria* (opposite in signification to each other,) and which are the most remarkable phrases or idiomatic expressions, throughout the whole passage which forms his lesson. For this purpose he must have a third paper book; in which after he has done his double translation he must write out and arrange what is to be found in the lesson under each of these heads. Should the passage contain nothing certain of them, he ought still to enter the head or title: thus, *diversa nulla* (no words differing in signification;) *contraria nulla* (no words of opposite signification,) &c.

"This diligent translating," says the author, "joined with this heedful marking in the foresaid Epistles, and afterward in some plain Oration of Tully, as *Pro Lege Manilia*, *Pro Archia Poeta*, or in those three *Ad C. Cesarem* (he means those three commonly entitled *Pro Q. Ligario*, *Pro Rege Dejotaro*, and *Pro M. Marcello*), shall work such a right choice of words, so strait a framing of sentences, such a true judgment, both to write skillfully and speak wittily, as wise men shall both praise and marvel at."

The author in the *Second Book* proceeds with the subject as follows:—

"After that your scholar, as I said before, shall come in deed, first to a ready perfectness in translating, then to a ripe and skillful choice in marking out his six points; as—1. *Proprium*; 2. *Translatum*; 3. *Synonymum*; 4. *Contrarium*; 5. *Diversum*; 6. *Phrases*; then take this order with him: read daily unto him some book of Tully; as the *Third Book* of Epistles, chosen out by Sturmius; *de Amicitia de Senectute*, or that excellent Epistle, containing almost the whole *First Book*, *ad Q. Fratrem*; some comedy of Terence, or Plautus. But in Plautus, skillful choice must be used by the master, to train his scholar to a judgment in cutting out perfectly over old and improper words. Caesar's Commentaries are to be read with all curiosity, wherein especially (without all exception to be made either by friend or foe) is seen the unspotted propriety of the Latin tongue, even when it was, as the Grecians say, in *duplo*, that is, at the highest pitch of all perfectness; or some orations of T. Livius, such as be both longest and plainest.

These books I would have him read now a good deal at every lecture; for he shall not now use daily translation, but only construe again, and parse, where ye suspect is any need: yet let him not omit in these books his former exercise, in marking diligently, and writing orderly out his six points; and for translating, use you yourself every second or third day, to choose out some Epistle *ad Atticum*, some notable common-place out of his Orations, or some other part of Tully, by your discretion, which your scholar may not know where to find; and translate it you yourself into plain natural English, and then give it him to translate into Latin again, allowing him good space and time to do it both with diligent heed and good advisement.

Here his wit shall be new set on work; his judgment for right choice truly tried; his memory for sure retaining better exercised, than by learning anything without the book; and here, how much he hath profited shall plainly appear. When he bringeth it translated unto you, bring you forth the place of Tully; lay them together, compare the one with the other; commend his good choice, and right placing of words; show his faults gently, but blame them not over-sharply; for of such missings, gently admonished of, proceedeth glad and good heed-taking; of good heed-taking, springeth chiefly knowledge, which after growth to perfectness, if this order be diligently used by the scholar, and gently handled by the master. For here shall all the hard points of grammar both easily and surely be learned up, which scholars in common schools, by making of Latins, be groping at with care and fear, and yet in many years they scarce can reach unto them. * * * * *

When by this diligent and speedy reading over those forenamed good books of Tully, Terence, Cæsar, and Livy, and by this second kind of translating out of your English, time shall breed skill, and use shall bring perfection: then ye may try, if ye will, your scholar with the third kind of translation, although the two first ways, by mine opinion, be not only sufficient of themselves, but also surer, both for the master's teaching and scholar's learning, than this third way is, which is thus:—

Write you in English some letter, as it were from him to his father, or to some other friend, naturally, according to the disposition of the child; or some tale, or fable, or plain narration, according as Aphthonius* beginneth his exercises of learning: and let him translate into Latin again, abiding in such place where no other scholar may prompt him. But yet, use you yourself such discretion for choice therein, as the matter may be within the compass, both for words and sentences, of his former learning and reading. And now take heed, lest your scholar do not better in some point than you yourself, except ye have been diligently exercised in these kinds of translating before.

I had once a proof hereof, tried by good experience, by a dear friend of mine, when I came first from Cambridge to serve the Queen's Majesty, then Lady Elizabeth, lying at worthy Sir Antony Denny's, in Cheston. John Whitney, a young gentleman, was my bed-fellow, who willing by good nature, and provoked by mine advice, began to learn the Latin tongue, after the order declared in this book. We began after Christmas; I read unto him Tully *de Amicitia*, which he did every day twice translate out of Latin into English, and out of English into

* This book of Aphthonius, now forgotten, was once in great vogue in our schools and on the continent. Among the list of books in Sandwich School box or library (Temp. Eliz. Reg.) was a copy of Aphthonius. There is a short notice of Aphthonius in the Penny Cyclopædia.

Latin again. About St. Lawrence tide, after, to prove how he profited, I did choose out Torquatus' talk *de Amicitia*, in the latter end of the first book *de Finibus*, because that place was the same in the matter, like in words and phrases, nigh to the form and fashion of sentences, as he had learned before in *de Amicitia*. I did translate it myself into plain English, and gave it him to turn into Latin, which he did so choicely, so orderly, so without any great miss in the hardest points of grammar, that some in seven year in grammar schools, yea, and some in the University too, can not do half so well."

The author next discusses "the six ways appointed by the best learned men for the learning of tongues and increase of eloquence, as 1. *Translation*; 2. *Paraphrase*; 3. *Metaphrasis*; 4. *Epitome*; 5. *Imitation*."

I. "Translation, is easy in the beginning for the scholar, and bringeth also much learning and great judgment to the master. It is most common and most commendable of all other exercises for youth: most common; for all your constructions in grammar schools be nothing else but translations. But because they be not double translations, as I do require, they bring forth but simple and single commodity; and because also they lack the daily use of writing which is the only thing that breedeth deep root, both in the wit for good understanding, and in the memory for sure keeping of all that is learned."

Ascham justifies his views on the subject by citing the opinions of Cicero, Quintilian, and Pliny, and thus concludes:—

"And by these authorities and reasons am I moved to think this way of double translating, either only, or chiefly, to be fittest for the speedy and perfect attaining of any tongue. And for speedy attaining, I durst venture a good wager, if a scholar in whom is aptness, love, diligence, and constancy, would but translate after this sort one little book in Tully (as *de Senectute*, with two Epistles, the first *ad Q. Fratrem*, the other *ad Lentulum* the last save one in the First Book,) that scholar, I say, should come to a better knowledge in the Latin tongue than the most part do that spend four or five years in tossing all the rules of grammar in common schools. Indeed, this one Book with these two Epistles, is not sufficient to afford all Latin words (which is not necessary for a young scholar to know,) but it is able to furnish him fully, for all points of grammar, with the right placing, ordering, and use of words, in all kind of matter. And why not? For it is read, that Dion Prusaes,* that wise philosopher and excellent orator of all his time, did come to the great learning and utterance that was in him, by reading and following only two books, Phaedon Platonis, and Demosthenes' most notable Oration *Περὶ Παιδαγωγείας*."

And a better and nearer example herein may be our most noble Queen Elizabeth, who never took yet Greek nor Latin grammar in her hand, after the first declining of a noun and a verb; but only by this double translating of Demosthenes and Isocrates daily, without missing, every forenoon, and likewise some part of Tully every afternoon, for the space of a year or two, hath attained to such a perfect understanding in both the tongues, and to such a ready utterance of the Latin, and that with a judgment, as they be few in number in both the Universities, or elsewhere in England, that be in both tongues comparable with her Majesty."

II. *Paraphrasis* is defined as being "not only to express at large with more words, but to shine and contend to translate the best Latin authors into other

* That is, Chrysostom, whose name was Dion, and who was a native of Prusa in Bithynia.

Latin words, as many, or thereabout." This method Ascham decidedly condemns as a school exercise, on the same grounds on which it is disapproved of by Cicero and the younger Pliny, the latter of whom in one his Epistles calls it *audax contentio*, an audacious contention. "It is a bold comparison, indeed," says our author, "to think to say better than that is best. Such turning of the best into worse, is much like the turning of good wine, out of a fair sweet flagon of silver, into a foul musty bottle of leather; or to turn pure gold and silver into foul brass and copper.

Paraphrasis, therefore, by mine opinion, is not meet for grammar schools, nor yet very fit for young men in the University, until study and time have bred in them perfect learning and steadfast judgment."

III. Metaphrasis. "This kind of exercise," says Ascham, "is all one with paraphrasis, save it is out of verse either into prose, or into some other kind of meter; or else out of prose into verse, which was Socrates's exercise and pastime, as Plato reporteth, when he was in prison, to translate *Æsop's* fables into verse. Quintilian doth greatly praise also this exercise; but because Tully doth disallow it in young men, by mine opinion it were not well to use it in grammar schools, even for the self-same causes that he recited against paraphrasis."

IV. "Epitome is good privately for himself that doth work it, but ill commonly for all others that use other men's labor therein. A silly poor kind of study, not unlike to the doing of those poor folk which neither till, nor sow, nor reap themselves, but glean by stealth upon other men's ground. Such have empty barns for dear years."

"I do wish," he afterwards remarks, in reference to the common books of exercises used at schools, "that all rules for young scholars were shorter than they be. For without doubt, Grammatica itself is sooner and surer learned by examples of good authors than by the naked rules of grammarians. Epitome hurteth more in the universities and study of philosophy, but most of all in divinity itself."

He acknowledges, however, that "books of common places be very necessary to induce a man into an orderly general knowledge, how to refer orderly all that he readeth *ad certa rerum capita* (to certain heads,) and not wander in study."

"Epitome is most necessary of all in a man's own writing, as we learn of that noble poet Virgil, who, if Donatus say true, in writing that perfect work of the *Georgics*, used daily, when he had written forty or fifty verses, not to cease cutting, paring, and polishing of them, till he had brought them to the number of ten or twelve.

And this exercise is not more needfully done in a great work than wisely done in our common daily writing, either of letter or other thing else; that is to say, to peruse diligently, and see and spy wisely, what is always more than needeth. For twenty to one offend more in writing too much than too little; even as twenty to one fall into sickness rather by over much fullness than by any lack or emptiness. * * * *

And of all other men, even those that have the inventivest heads for all purposes, and roundest tongues in all matters and places (except they learn and use this good lesson of epitome,) commit commonly greater faults than dull, staying, silent men do. For quick inventors, and fair ready speakers, being boldened

with their present ability to say more, and perchance better too, at the sudden for that present than any others can do, use less help of diligence and study than they ought to do, and so have in them commonly less learning and weaker judgment for all deep considerations than some duller heads and slower tongues have.

And therefore ready speakers generally be not the best, plainest, and wisest writers, nor yet the deepest judgers in weighty affairs; because they do not tarry to weigh and judge all things as they should, but having their heads over full of matter, be like pens over full of ink, which will sooner blot than make any fair letter at all. Time was, when I had experience of two ambassadors in one place, the one of a hot head to invent, and of a hasty hand to write; the other cold and staid in both; but what difference of their doings was made by wise men is not unknown to some persons. The Bishop of Winchester, Stephen Gardiner, had a quick head and a ready tongue, and yet was not the best writer in England. Cicero in Brutus doth wisely note the same in Serg. Galba and Q. Hortensius, who were both hot, lusty, and plain speakers, but cold, loose, and rough writers. And Tully telleth the cause why, saying, when they spoke, their tongue was naturally carried with full tide and wind of their wit; when they wrote, their head was solitary, dull, and calm; and so their style was blunt and their writing cold." The author then quotes a remark from Cicero, to the effect, that the fault in question is one by which men of much natural ability, but insufficiently instructed, are often found to be characterized. "And therefore," he concludes, "all quick inventors and ready fair speakers must be careful that, to their goodness of nature, they add also in any wise study, labor, leisure, learning, and judgment, and then they shall indeed pass all other (as I know some do in whom all those qualities are fully planted,) or else if they give over much to their wit, and over little to their labor and learning, they will soonest overreach in talk, and farthest come behind in writing, whatsoever they take in hand. The method of epitome is most necessary for such kind of men."

V. Imitation Ascham defines to be "a faculty to express lively and perfectly that example which you go about to follow." "All languages," he continues, "both learned, and mother tongues, be gotten, and gotten solely, by imitation. For as ye use to hear, so ye learn to speak; if ye hear no other, ye speak not yourself; and whom ye only hear, of them ye only learn.

And therefore if ye would speak as the best and wisest do, ye must be conversant where the best and wisest are; but if you be born or brought up in a rude country, ye shall not choose but speak rudely. The rudest man of all knoweth this to be true.

Yet nevertheless, the rudeness of common and mother tongues is no bar for wise speaking. For in the rudest country, and most barbarous mother language, many be found that can speak very wisely; but in the Greek and Latin tongues, the two only learned tongues, which be kept not in common talk, but in private books, we find always wisdom and eloquence, good matter and good utterance, never or seldom asunder. For all such authors, as be fullest of good matter and right judgment in doctrine, be likewise always most proper in words, most apt in sentence, most plain and pure in uttering the same."

After examining what has been said upon the subject of imitation by various writers, ancient and modern, he advises "a good student to journey through all authors," but to dwell only, "after God's Holy Bible, with Tully in Latin, Plato, Aristotle, Zenophon, Isocrates, and Demosthenes, in Greek."

V. EDUCATION, A PREVENTIVE OF MISERY AND CRIME.

[From a Prize Essay by Edward Campbell Tainsh.]

NUMEROUS and complicated as are the forms that misery and crime assume when arrived at full maturity, they are comparatively simple in their beginnings, and arise from causes not difficult to be traced by the careful observer. How far they act upon each other—to what extent misery, while the offspring of crime, may also reproduce it,—though interesting in the extreme, it is not our province to inquire.

What are the causes of both it is essential to know, before we can successfully to apply the remedies.

We can not do better than take a look into real life, and endeavor so to ascertain the causes of misery and crime. Some one of the wretched courts, so abundant in our towns, will supply us with facts ready prepared for our inspection.

Enter the first house, one room of it—you will not soon forget its close atmosphere (and indeed that of the whole house.) The furniture, what there is, is dilapidated and dirty; the floor bare, the children are in rags, and moaning with hunger. In one corner is a sick child lying on a heap of rags, pale and wretched. The mother is out, earning the shilling for which the miserable children are impatiently waiting to supply them with food. Sitting over the fire is the father. He is ill, surely? No! Why at home then? Where else should he be! But why not at work? He has none to do. How long has this been the case? Several weeks. Why did he leave his last employment? Well, he happened to be late once or twice, and when the slack time came he was turned off first. But why not looking for more? He did look till he was tired, and found none; at least, he had one job, but it was so far to go, and the hours were so long, that he gave it up. *That* will do. You need not question any farther, the man is *idle*, and this scene of misery is explained.

Go on to the next house. But stop; wait till midnight, then go in. The state of the room is not greatly different from that of the last in its forlorn wretchedness. The children are asleep on some filthy bedding, near the remains of the fire, huddled close together to keep themselves as warm as possible. Look at them and you will perceive by their moist cheeks, their red eyes, and broken sobs, that they have cried themselves to sleep. Poor things! the sad looks remain, though con-

sciousness has gone for a time. The mother is up and trying to soothe the shrivelled infant in her arms. She herself is wasted to a shadow, and weeps bitterly over her own sad fate, and the sufferings of her children. Your heart melts for her, and you are just about to ask the cause of her unhappiness, when you hear a heavy foot stumbling on the stairs. A man enters the room swearing, and strikes the mother for being up. It is the *husband and father*, and he a *drunkard*! The key is found to *this* scene of misery.

We enter another house. The place bears marks of poverty, but not so abject as in the other cases. There are indications of the inmates having seen better circumstances. Still, no doubt, they are in great want; all look pale, and weak, and sad. The husband lies ill, the wife is exhausted through nursing and want, the children pinched with hunger. In conversation you learn that the father had regular work for some years, that he has no such habits as idleness or drunkenness, and that he bears a good character with his late employer; but by an illness which has already lasted some weeks, he and his family are plunged into distress. Here is a case, which, at first sight, might seem like one of pure *misfortune*, for which the man could not be blamed. But a moment's thought must correct this opinion. He has had regular work for many years, during which time he has saved nothing; he has been *extravagant*; that is, he has spent his means regardless of the wants and claims of the future, and, by so doing, has involved himself, and those whose well-being it is his especial duty to care for, in destitution and misery.

Such are but feeble examples of the ever-varying phases of misery, resulting from these prolific causes—Idleness, Drunkenness, and want of Forethought. The legitimate results of each are here pictured singly for the sake of perspicuity; but it is by far more frequently the case that the evil qualities exist, and consequently act together, thus intensifying the misery that is produced. Who can wonder if such homes turn out to be not only scenes of misery, but hotbeds of crime?

Instances of misery, as the result of ignorance, are everywhere to be met with. Ill-ventilated dwellings producing sickness; bad domestic management making the scarce food scarcer, and the comfortable home still more uncomfortable; the choice of unwholesome instead of wholesome food; the indulgence of habits injurious to the health; low wages obtained by a laborer not disqualified by bad habits; destitution resulting from a strike which was engaged in with a view of bettering the condition:—these, and innumerable other instances, are every day occurring, illustrative of the baneful effects of ignorance.

The history of many a man convicted of embezzlement, burglary, forgery, or some other of the various forms of dishonesty, would furnish the teacher with an instructive explanation of the beginnings of crime. Not all at once did the criminal become capable of the act for which he has been condemned. Time was when his character gave promise as fair as most. A false excuse for being late at school offered to avoid the consequence of having loitered on the way; a sum shown up as his own, which had been done by another boy; an apple taken from a neighbor's desk; a penny kept back from some change; the wasting of an employer's time; the money borrowed from the till to gratify some otherwise unobtainable pleasure; the increased distaste for steady work; the more wholesale abstraction of money; the alteration in the books to correspond with the deficiency of cash; the forgery, or some such climax:—these are gradations, easy, almost insensible, when the first steps have been taken undiscovered, or have been improperly dealt with. The *flagrant crime* is the legitimate fruit of the so-called *petty falsehood or dishonesty*.

The condemned murderer was once, perhaps, just such a one as you, teacher, now have under your charge. You must watch that boy at play if you would learn his character. You will find things in it demanding your serious attention, and which, if allowed to go unchecked, may ripen into the worst crimes. One time you will see him amusing himself with the sufferings of a fly, whose limbs he has torn off; at another time teasing and ill-using a younger boy, whom he has selected to annoy; he prefers scheming to working, and is cunning in compassing an end, and unscrupulous in sacrificing the happiness of a school-fellow to his own; he is passionate and overbearing, and long remembers an injury done him; he is the subject, and may be the victim, of ungoverned passions.

The teacher who would successfully strive to prevent the growth of the causes of misery and crime, must thus study character; he must learn to detect a bad habit or an evil passion in its beginning, and to perceive to what that beginning may lead if unchecked; to see, in an equivocation, the germ of a forgery, and in a revengeful blow the first step to murder. Then, and only then, will he be capable of selecting and judiciously applying the means of prevention.

Such, then, are some, perhaps the most important of the causes of misery and crime—Idleness, Drunkenness, Want of Forethought, Extravagance, Dishonesty, Ungoverned Passions, and Ignorance. To prevent the existence of these causes is to prevent their results; to set in operation opposite causes is to produce opposite results.

The schoolmaster's question is, How can he best accomplish these ends? how can he best prevent these qualities appearing, and cultivate the opposite qualities—Industry, Forethought, and Economy; Sobriety, Honesty, Self-government, Knowledge, and such other qualities as shall conduce to a state of wellbeing?

It is of importance to remember, that in the cultivation of a good quality there are two distinct things to be done; to produce conviction of its propriety, and to form the habit of exercising it. The former may easily exist without the latter, while the latter is not sufficiently strong without the former. Many an inveterate drunkard will, in his sober moments, confess that he feels how dreadful a thing drunkenness is, and that the misery it produces by far exceeds the pleasure he feels in it; but the *habit* is too strong for him. And, on the other hand, many a young man brought up in habits of sobriety has yielded when temptation came, because his conviction of its importance was not sufficiently strong and ready for use.

The question becomes then, What kind of teaching is best adapted for producing *conviction* upon the various duties necessary to a state of wellbeing, such as just indicated? And what kind of training is best adapted for forming *habits* in accordance with those convictions?

To any thoughtful mind directed to the subject, suggestions will present themselves; among others, perhaps the following.

We may suppose the teacher with a class of boys before him, and shall attempt to follow him through a course of teaching. He begins by asking:—

Have you any wishes for the future, when you are men?

Carefully followed up, this question may afford abundant matter for a useful lesson. The teacher will find some of his pupils wishing for impossibilities; the nature of such wishes should be pointed out, and also the folly of allowing the mind to dwell upon them. Others he will find wishing for things, to their minds desirable, but which he will be able to show undesirable. But in all their thoughts and hopes, wise or unwise, he will find one leading thought—happiness. He proceeds—

Are you sure to be happy when you are men? If not, upon what does it depend?

Such things as chance, luck, undue reliance upon friends, are the errors that will show themselves here, and which will need to be wisely dealt with.

Will it depend upon yourselves at all?

The skillful teacher will find little difficulty in making his boys perceive how greatly it depends upon their *conduct*.

What kind of conduct will it be necessary for you to adopt, in order to be happy?

Among the many answers sure to be given to this question, the teacher will be able to select as he pleases to begin with, only *postponing* the examination of the others. Suppose him to choose the answer, "We must be industrious."

What do you mean by being "industrious?"

Why must men work at all?

From this question might arise a series of lessons upon the various necessities and comforts by which we are constantly surrounded, affording the opportunity of conveying a large amount of useful information, still always bearing upon the primary object of the lesson, namely, to show that the great majority of the comforts and necessities of life are to be obtained only by labor, and *therefore*, men must work

The following may serve as an illustration:—

From whence did your parents obtain the bread off which you breakfasted this morning?

How did the baker obtain it? and was it bread when he received it? What did he do to the flour?

From whom did the miller have the flour? Was it flour when it came to him? How did he obtain flour from corn? How did the farmer obtain the corn?

Give me one general name for all the operations performed by the farmer, the miller, and the baker.

If the farmer, the miller, and the baker had not worked, how would you have fared for bread?

Suppose no men worked at farming, grinding, baking, etc., what would be the consequence?

If those who do work, worked less industriously, how then? or more industriously?

Who beside himself is benefited by the industrious man's industry? and damaged by the idle man's idleness?

Lessons of this kind, constantly forming part of the school work, varied according to circumstances, filled up, and the "breath of life" *infused into them* by the teacher, can not fail to work into the mind the conviction of the necessity of industry. Of subjects there can be no lack: other articles of food; clothing; fuel; buildings; books, and a host of other things, form an inexhaustible fund, replete also with interest on account of the valuable knowledge of *other kinds* connected with them.

But the teacher will not rest satisfied with producing conviction of the necessity of industry: he has more to do; he proceeds:—

How does industry assist in producing happiness?

Who is happier, the industrious or the idle man?

Then if the idle man were compelled to work, would he at once be happier? and why not?

If the industrious man were compelled to be idle, would he be happy? and why not?

Had these men always the habits that now distinguish them? When did they begin to form them?

If you would be industrious men, when must you begin to form the habit? How can you do this?

Does your happiness when you are men depend at all upon your conduct now?

Such teaching, not merely given at set times, but constantly recurring when opportunity offers, and given by the teacher who feels the importance of what he is teaching, can not fail to arouse in a boy's mind the determination to strive to form in himself the habit. But *this* is not all. The teacher knows he has to *train* as well as teach—to assist his charge in their endeavors, as well as to incite them to make the effort. The means at his command for carrying out this training are numerous. Viewed in this light, the school work assumes additional interest and importance. While it is essential for the sake of the knowledge to be obtained, that the work should be *done*, and done *thoroughly*, it becomes doubly important when it is remembered that if done, *so* much is accomplished towards the formation of the habit of industry; if neglected, *so* far is idleness encouraged. The sums, the copy, the drawing, the reading—all, to their own importance, superadd that of being means for the formation of habits. In every lesson, the teacher will say to himself, not only "I want to make the boy a good reader or writer," and so on, but, "I want to make the boy industrious." Whenever a disinclination for steady work shall show itself, the gentle pressure of the teacher's authority, backed by such teaching as has been indicated, repeated whenever occasion calls for it, "line upon line, precept upon precept," and wisely administered in all earnestness and love, will surely not fail to send back the waverer with renewed and strengthened purpose to resume his work. By such means the teacher may hope gradually, but surely, to develop in his children habits of industry that shall stand the brunt of any future temptation.

He proceeds another step.

Do you expect always to be able to work?

Will your wants be as numerous when you are unable to work as when you are able?

How can they be supplied?

How should the wants of those too old to work be supplied?

If what a man can earn when able to work be barely sufficient, or even insufficient to support him in comfort, ought he *then* to save?

What would be the state of a people of whom *none* saved?

Among a people of whom some save and others do not, how are the wants of the unsaving supplied when they are unable to work?

What do we call the man who saves out of his present means for the wants of the future? and the man who does not?

Who is benefited by the economical man's economy, and damaged by the extravagant man's extravagance?

Then what kind of quality shall we call economy? and extravagance?

How are the wants of the young supplied?

Would it not be better for them to be set to support themselves while still young? and why not?

How must they act while young in order to be able to more than compensate when older for the time spared them from work?

Who provides for them while they are preparing for work, and how should they behave to their parents in return?

What must be the consequence of parental neglect or incompetence?

Then before assuming the parental duties, what should each one do?

Are economy and forethought easy to every one? and why not?

When should the formation of these habits be begun?

How can you best aid in forming these habits in yourselves? and how can others help you?

In endeavoring to train in habits of Economy and Forethought, the cultivation of the power of *self-denial* will deserve the first consideration. Indeed, economy is but one form of self-denial. The boy who can resign a pleasure for the sake of giving pleasure to another, will also be able to give up a present gratification when his judgment is convinced that the wants of the future demand it, and that it is his duty to provide for those wants. The boy accustomed to devote part of his evening leisure to the preparation of school-work for the next day, will be in training to form the man able to set aside part of his means of present enjoyment, or to forego some pleasure or relaxation, in order to be able to fulfill his duties in the future. The boy trained to consider the happiness of his fellows as well as his own in his plans, may well be expected to ripen into the man who will see himself qualified to fulfill before he undertakes duties to others.

The manner in which the school materials—pens, ink, paper, and so on—are used, will not be beneath the teacher's notice, nor will the way in which the boy disposes of his pocket-money, inasmuch as it is by *little things* the habits are mainly formed, and little things *only* are at his command.

The man of economical habits will scarcely be a drunkard; all the reasons against ordinary extravagance militate equally against drunkenness, besides which, it has peculiar evils attending it. The teacher will endeavor to bring these strongly before the minds of the boys. It might be done thus:—

We have seen that under certain circumstances men should abstain from consuming as much as is necessary to their comfort, in order to provide for the wants of the future. Can you think of any case in which a man should consume more than is necessary for his comfort?

What effect has the consumption of more food than is necessary upon the health?

What is a drunkard?

What effect has drunkenness upon the health?

Would you expect to find a drunkard industrious, economical, etc.?

Will he be a good workman? or a good master?

What sort of husband and parent will he be?

Is the drunkard happier than the sober man? if not, would he *at once* be happier if compelled to be sober? and why not?

Is there usually any strong temptation to *begin* habits of intemperance?
What would you think of the man who "to drown sorrow" became a drunkard?

Which is easier, for a sober man to remain so, or for a drunkard to become a sober man? and why?

What kind of men are most likely to become drunkards—the industrious or the idle? the economical or the extravagant? the intelligent or the ignorant? the comfortable or the wretched?

Are there any habits a boy can form which will make him likely to become a drunkard? or any that will tend to prevent it?

How should you act now in order to place yourself as far as possible out of the power of this temptation?

With facts from life illustrating and confirming the conclusions arrived at, the teacher will, after such a lesson, find his class impressed with the dreadful effects of drunkenness upon its victim's health and morals; upon the happiness of his wife and children; upon his character as a workman, and his efficiency in any position in life. They will see that he ceases to be useful to any, a disgrace to himself, and a burden to all connected with him—a plague to society, leaving little to hope for but his absence. They will be led to notice what are the habits and condition of mind most likely to lead to drunkenness, and will be warned to avoid those habits, and to store their minds with matter that shall prevent vacuity, and save them from the necessity of "drowning thought" or "killing time." They will also have learned to hold in just contempt that cowardly shirking of trouble which prefers the lowest degradation to the brave and manly endurance of misfortune. And, perhaps, it is not too bold to hope confidently that the firm resolve will spring up in their minds to shrink from the first beginnings of a vice so easy to be resisted in its beginnings, and so almost omnipotent when it has once become a habit.

The kind of training adapted for guarding against this fearful habit of drunkenness is obvious. Training in industry, economy, and such habits, is also training against drunkenness. *In the boy* the vice has not to be cured or checked, its place has but to be pre-occupied by qualities the presence of which forbids the intrusion of drunkenness, and the mind impressed with vivid pictures of the dreadful fate of the drunkard. At the same time, any disposition to undue indulgence of the appetite, to purchase present pleasure at the cost of future suffering, or to yield to temptation from fear of the ridicule or annoyance of companions, will deserve serious attention, as habits tending to weaken the power of resistance.

There is no part of his work which will require more care and attention on the part of the teacher, or that will more richly reward him for his exertions, than the cultivation of *Honesty* in his pupils. While the phases of the virtue are various, possible aberrations from

it are equally numerous and subtle, and the consequences of failure most serious and almost irreparable. The following may illustrate the teaching that might be employed:—

Why do men work? why do they save?

If a man, having worked and saved, should lose his savings by some accident not likely to occur again, what would he do?

If he lost them by means likely to occur repeatedly, what would he be disposed to do?

In order, then, for men to continue to work and save, of what must they feel secure?

How do thieves affect this feeling of security? and what effect has their conduct a tendency to produce upon industry and economy? How much do they themselves produce?

Do they consume any?

Then, in how many ways do they help to prevent the accumulation of wealth? What means does society adopt to prevent the consequences that would otherwise arise from the want of honesty in some of its members?

What would be the result if society either neglected or were unable to do this? Who would prosper? Would thieves even?

Can laws, however good, prevent all the evil effects of dishonesty?

Which would be better, to prevent dishonest men from stealing, or to prevent men from becoming dishonest?

How can this latter be effected?

Are there any other forms of dishonesty besides stealing?

If a man have entered into an engagement which he afterwards finds to be to his disadvantage, how should he act?

During the time that a workman has engaged to give to his employer, how should he work?

How is unpunctuality a form of dishonesty?

How should a promise be regarded?

What is a lie? Is it possible to lie while speaking words *literally* true? or without speaking at all?

If a case occurred in which by telling a lie there appeared to be some great advantage to be gained, without detriment to any one, should the lie be told?

Were confirmed thieves and liars always such? How did they become such?

When will these bad habits, or the opposite good ones, begin to be formed in you?

What can you do now to insure that the good and not the bad habits shall be found in your characters?

By such teaching the boys will be led to discover the usefulness of the institution of property, the evils arising from a want of respect for it, and the means society has taken, and is taking to enforce this respect wherever any inclination to disregard the rights of property shall manifest itself.

They will also perceive that conduct not usually called dishonesty is still of the same nature, and attended with similar results. The evils of flagrant dishonesty and positive falsehood they will readily discover; the teacher will have to dwell most on the less palpable forms, such as shirking of engagements, unpunctuality, and equivocation. Thus he will lead them to scorn the dishonor that would escape from the fulfillment of a contract by means of some legal quibble, or because the agreement was only tacit, and therefore not provable; to form a tproper estimate of that sham truthfulness which is content to

convey a false impression so that no words are used which could be remarked as positively and literally untrue; and to feel that "a lie is an *intention to deceive*."

Perhaps nothing is more striking in its way than the confusion, inconvenience, and loss, which an unpunctual person may cause. This should be vividly brought before the minds of the children, with the damage and inconvenience often caused to the person himself; nor should the ease with which the habit of punctuality may be acquired be passed unnoticed.

The children will then discover how these bad habits commence, how they grow upon their victim, and what *they* must do to guard themselves against their encroachments.

Opportunities for training in honesty will be constantly occurring. Late arrivals at school—so annoying on account of the interruption caused to the school-work—will deserve still greater attention on account of the training in the matter; lessons unprepared become unfilled engagements; school-time wasted, the first step to the wasting of an employer's time; and a sum done by another boy, and shown up as the exhibitor's own, a practical lie.

It is lamentable to see how little wisdom is frequently displayed by those who have the charge of young children in the matter of truthfulness. The "See what I've got for you!" when there is nothing for the child, is practical teaching in deception. Let the child, a year or two later, convey the same kind of deception in the form of a proposition, and every one is shocked at its want of truthfulness. Children are taught to look too much at the form of words, and too little at the intention with which the words are spoken. But the lie conveyed in the mere shrug of the shoulders is not lost upon a child, however it may fail to touch the conscience of the perpetrator. If parents and teachers would have their children truthful, they must show by their conduct that they consider an *intention to deceive* to be a lie.

The experienced teacher knows how certainly his boys' minds are moulded after his own—how *they* are affected by traits of character almost imperceptible to *himself*.

Now, a teacher is not a walking encyclopædia, neither need he be ashamed of not being one. Some teachers, however, have so great a horror of "I don't know," that they prefer equivocation, or, at least, mystification to saying it, if a pupil happen to propose a question they are unable to answer. The effect of such shuffling upon the boys' characters is certain and unmistakable. The teacher *must* be unreservedly honest or his boys never will be.

If ever a boy be found to have lied or pilfered, all the teacher's wisdom will be called into requisition to deal properly with the occurrence. Such an act may form a crisis in a boy's life; his future may depend upon the judgment, faithfulness, and love, with which it is met.

The dreadful consequences arising from ungoverned passions, the duty of governing them, and the way in which the power of self-government is to be attained, will have to be the theme of many a lesson, and the subject of frequent reference. It is possible to make the school a nursery (in efficiency second only to a good home) for all the best and tenderest feelings of our nature; but this can only be done when the best energies of a good teacher are influencing the school.

If envious feelings on account of the superior attainments or reputation of a school-fellow should show themselves, the teacher will lead his children to see how contemptible such feelings are; what malice there is in them; how, instead, kindly admiration and emulation should be awakened; how that no good could arise to *any one* if the envious wish were realized, but harm and loss; while, on the other hand, by emulation instead of envy, double good may be effected.

The fearful effects of *jealousy*, the absence of all power of self-government in its victim while under its effects, the increasing power it gains over him who indulges it, can not be too strongly painted.

Acts of wanton *cruelty* have but to be brought to light to produce a feeling of burning shame in the culprit not "hardened in sin," and strong disapprobation in the witnesses. The skillful teacher will know how to awaken and to avail himself of these feelings; to show what a despicable character that is, in which cruelty has become habitual, and to what dreadful crimes it may lead. In a school where such teaching is constantly recurring, a boy tormenting an animal or ill-treating another boy will be a rarity.

There is, perhaps, no evil passion that a boy is so inclined to justify as *revenge* under various forms and names. "Served him right!" "I'll pay you;" "He did it to me, and I'll do it to him," are expressions often believed to convey defensible sentiments. The boy who would be ashamed of an act of unprovoked cruelty would often not be ashamed of a revengeful act. Suppose a case of the kind to have occurred in a school, it might be dealt with thus:—

Did you like the pain he gave you?

Will it diminish your pain to inflict pain on him?

Do you take pleasure in giving him pain? and if you do, is that a feeling you would like to check or encourage?

Is it any reason for your being cruel, that he was?

What sort of man will you become if you encourage such feelings?

Which do good men take most pleasure in, forgiveness or revenge?

Even if your motive were to prevent him hurting you again, did you take the best means?

Would an act of kindness have been more effective?

Is it an easy thing for a boy accustomed to indulge revengeful feelings to check them?

Will it be easier or more difficult the second time than the first? When will it become quite easy?

Which feelings will you try to cultivate in yourselves, the revengeful or the forgiving?

It would be almost impossible to leave such a case as this, without referring to the beautiful example of the Redeemer, who, "when he was reviled, reviled not again;" but "loved his enemies," and "did good to those who hated him."

So much may suffice in illustration of the way in which the first buddings of evil passions may be dealt with, and the first endeavors after a kind and forgiving spirit encouraged. He who has taken the trouble to observe the amount of misery and crime resulting from ungoverned passions will think no amount of attention too great, if, peradventure, he may prevent their growth.

It is more than possible that among the parents of the boys subjected to this kind of teaching and training, there may be one, who, when he finds the teacher endeavoring to make his son honest otherwise than by the iteration and reiteration of the command, "Thou shalt not steal," will begin to make use of such expressions as "enlightened selfishness," "anti-religious," and so on. Even teachers are not wanting to urge the same objection. Such a feeling, however unfounded or absurd, must be met and answered; for it is of the highest importance that no such under-current should exist in the boys' minds, to weaken or neutralize the effect of the teacher's work. Suppose such a notion to leak out, it might be met thus:—

Why, have we seen, should men be industrious, sober, honest, forgiving?

What name do we give to the men who possess these and such qualities?

Suppose it could not be proved to be good for society that men should possess these qualities, would it then be a duty to practise them nevertheless? Why?

What name do we give to men who obey the commands of God?

With what design are God's commands given?

If certain conduct not included in the commands of God could be proved to be conducive to the wellbeing of society, would it be the duty of a religious man, as such, to adopt that conduct? and why?

Then, what shall we say should be the test of conduct with all good men?

By such a lesson the children could be led to see that a "moral" man is one whose conduct is in conformity with that ascertained to be conducive to the wellbeing of society, as far as such has been ascertained; that a "religious" man is one whose conduct is in conformity with the will of God, as far as that will is expressed, and beyond, with such conduct as agrees with the evident intention of God's expressed will, namely, the wellbeing of society; that, therefore, the test of con-

duct with the man called "religious," is the same as that of the man called "moral," and that therefore the notion of antagonism is absurd.

That *knowledge* is one, and an important one, of the causes of well-being few will doubt. Many educators, so called, seem to act as if it were the one condition of wellbeing. To the neglect of all training in good habits the whole school routine seems framed, in some cases, with the sole view of imparting knowledge. In order to act wisely in this matter, two things must be borne in mind, first, that knowledge *alone* will not make a good, useful, and successful man; and, second, that not all knowledge is equally useful, nor all useful knowledge equally applicable in the school-room. But while bearing in mind these facts, the teacher will most anxiously strive to work into his boys' minds a respect for knowledge, a conviction of its effect upon the wellbeing of society, a thirst for it, and a determination to gain as much as possible; while at school, and to continue their efforts when they enter the wider school—the world. As tending to accomplish this end, such teaching as the following may serve:—

Why must men be industrious in order to be in a state of wellbeing?

Would an industrious Hottentot be able to produce as much of the necessaries and comforts of life as an industrious Englishman? and why not? How does knowledge assist industry?

What kind of crops would the farmer reap if he were ignorant of the nature of different kinds of soil, and the soils best adapted to different seeds?

Why did not the ancient Britons use ploughs of the same kind as those now used?

Why is the steam-mill in many cases superior to the windmill? and why were steam-mills not always used?

How has the introduction of steam affected the facilities for travelling?

Why was not steam always used for the same purpose?

Why are our streets lighted with gas? and why were they not always?

Are calico and stockings manufactured with greater or less facility now than formerly? and why?

How was the stock of knowledge at present in existence accumulated? and how must it be increased, if increased at all?

When did you begin to acquire knowledge? and how will your present efforts to gain it affect your power of increasing your stock in the future?

What must be the condition of the man who neglects to gain knowledge?

But part of the teacher's duty is to impart knowledge. What among the immense stores before him shall he select for his use? Which will best serve the purposes of education? Which be most likely to be useful to the children in their future course? This is a serious question. He will teach them to read, of course; and write, most certainly; and teach them thoroughly too. But it is possible to put these *instruments* into a boy's hands, and yet leave him perfectly incapable of using them to any good purpose. People who can read are not always readers, and readers do not always read intelligently, and, consequently, with profit. A boy can scarcely be said to be able

to read who simply has the power of deciphering words; he must, in addition, have the power to comprehend the *meaning* of a set of words, the connection between two sets of words, and to form a judgment for himself upon what he reads. Without this, his so-called ability to read will avail him little.

No one can know everything; no one need be the worse off for not knowing everything. There is a great deal of knowledge, which it is quite sufficient for the good of society, if *some* of its members possess. For instance: all need not know how to make a steam-engine, to navigate a ship, to calculate the distances of the fixed stars, to work a mine, to demonstrate a proposition of Euclid, to tell the number of square miles on the surface of the earth, the length of the longest river, the height of the highest mountain, or the area of the smallest county in England.

But there is knowledge which none can lack, without serious detriment to himself and to society. What this knowledge is, and how it can be best imparted, will be questions of the highest importance to the teacher.

In general, this indispensable knowledge may be expressed as a *knowledge of the relation in which each one exists to the beings and influences around him, and of the conduct necessitated by this relationship.*

For instance, the boy should know that he is an organized being, surrounded by agents, some of which act beneficially, others injuriously, upon him. He should know the nature and effects of, at least, the most common of these, and that some of them, beneficial in their action in certain quantities, are injurious in other quantities; he should know the nature of his own organization and the conditions of its healthy working.

He should know that he is a social being, and that his wellbeing is thereby made to depend upon the success with which he strives to, promote the wellbeing of the society of which he is a member. He should know the duties attaching to the various forms of social relationship, and should be prepared or preparing to fulfill them. Thus:—

As a *parent*, he should be prepared to fulfill before he undertakes duties to others. He should provide for the physical health and comfort of his children. He should watch and direct the formation of their characters—check their faults, and encourage their efforts after good. He should prepare them to provide for themselves, when he is no longer able to provide for them.

As a *capitalist*, he should so employ his capital as to produce that which society most wants in the greatest possible quantities, and at the smallest possible cost. He should select those laborers who can best help him in making his capital productive, those whose qualifications are the highest, who can produce most in proportion to the wages paid them. He should endeavor to turn their labor

to the best account, availing himself of every aid that lies within his reach. In so doing he will be the benefactor of society by efficiently supplying its wants, by encouraging among his laborers those qualities upon which their happiness and usefulness depend, and by enabling them to obtain knowledge and skill, which, but for his vigilant direction, they could not attain. As his own special reward he will obtain large profits.

As a laborer, he should endeavor to cultivate in himself those qualities, to attain that knowledge and skill which will make his services most acceptable to the capitalist. He should serve his employer faithfully, bringing all his intelligence to bear upon his work. He will then serve society by making the capital upon which he is employed as productive as possible, and will earn for himself the reward of high wages. If his wages be lower than desirable, he should seek for the means of obtaining higher, taking care, at the same time, not to engage in strikes, or any other such means, whose real tendency is the opposite of the one sought for. Should there be no means of *immediately* obtaining higher wages, he should endeavor to increase his productiveness as the only means of increasing the store out of which wages are paid, and of obtaining for himself a large share of that store.

These examples, not thought to be comprehensive, but only illustrative, of the kind of knowledge not to be dispensed with, must suffice. Enough if they serve as indications. Other points, no way inferior in importance, are sure to suggest themselves. The teacher has to remember that his work is to send the boy out, *fitted for the duties of life*. He must not rest satisfied without sending his teaching right home to the hearts of his boys, so as to lead to actual living results.

The knowledge that shall be imparted beyond what is here indicated, must depend upon circumstances, and need scarcely be discussed now. With the boy who is able to remain at school five or six years, of course more can be attempted than with him whose time is but two years. Few will complain of too *much* knowledge, but all have a right to complain when indispensables are neglected for the sake of things of doubtful or inferior importance. The intelligent educator will throughout select those materials which either have the most direct bearing upon the boy's future wants, or most efficiently aid in the formation of the judgment and character.

Our question was, "What are the best means for making the schoolmaster's functions more efficient than it has hitherto been in preventing Misery and Crime?"

The foregoing remarks proposed as an answer to this question, may be briefly summed up thus:—By the schoolmaster's making himself better acquainted with the causes of these evils, in their first beginnings especially; by working into the minds of his boys the conviction of the duties devolving upon them; by training them in habits corresponding with those convictions, and by imparting knowledge calculated to enable them to act up to their convictions.

It need scarcely be said that the subject is not thought hereby to be exhausted, or that the sketches of lessons that have been adventured pretend to be nothing more than skeletons, depending for their value upon the living teacher.

There will not be wanting objections to the proposal to attempt this kind of teaching and training. "To do this we must neglect other things," is one common objection. Be it so, if necessary, unless those "other things" can be shown to be of greater, or of equal importance. What amount of "other things" can compensate for habits of idleness, dishonesty, and extravagance—for passions unchecked, and a mind unstored with the knowledge necessary to the performance of the great duties of life; and that this knowledge and these habits do not come spontaneously, is a matter of experience.

Another objection is—"There is not time to do it perfectly, the children do not remain long enough at school." Well, then, do it *imperfectly*; do it as far as you can. No one will say that a little honesty, industry, economy, or even knowledge of *this kind* is "a very bad thing." That teacher must do his work very badly who sees a boy leave his school, even after a three months' stay, without some useful thoughts, some good resolves, and some insight into the duties of his future career.

If the time be short, why, then, work the harder! and, *perhaps, you will find in this effort and this direction of it, the means of detaining the boy longer in a school where himself and his parents will feel he is gaining something worth making a sacrifice to obtain.*

Whether, by incorporating productive labor with the school work, it is possible in some cases to retain the children longer at school, or more efficiently to cultivate the industrial qualities, is a question that, perhaps, deserves more attention than has yet been given to it.

It is strongly insisted upon by some, that owing to peculiar organization certain individuals are predisposed to particular vices, and that this predisposition requires particular attention. It is a fact that in some cases, children, under the influence of bad example, very early acquire habits which will need the greatest attention for their cure. Now, if the first case be a true one, still, for all practical purposes, the two cases may be looked upon as one. Both call for special attention; to the work of prevention is added that of cure, to some extent, in both cases. Careful watching for the display of the bad habit; constant checking of it; kindly encouragement whenever improvement is attempted: these are the means called for.

Such, then, the work, and now a word in conclusion upon the work-

man. How much depends upon him! It is not enough that he has plans and theories in any quantity stored in his head; he must be devoted to his work; fully aware of the difficulties he has to overcome; well acquainted with the implements he is using; thoroughly alive to the immense importance of the results he is aiming at; full of love for the tender beings under his charge, and of faith in the efficacy of his mission; enthusiastic and willing to be spent in his work, and, if necessary, to find his whole reward in the consciousness of being the means of moulding the children committed to him into good, useful, and happy men. When such are the men to whom the teaching and training of the young is committed, we may hope for results till then impossible.

The foregoing Essay received the prize of \$100 offered by the United Association of Schoolmasters of Great Britain, "*On the best means of making the school-master's function more efficient than it has hitherto been in preventing misery and crime.*" The reading of the Essay in a meeting of the Association, called forth a discussion of the argument, which was thought by Mr. Tate, "to be clear, simple and argumentative," but not exhaustive. "He had no fault to find with what the essayist proposed to do; he had only to find fault with what he did not propose to do. He would advocate the introduction of social science in schools, but he would make it supplementary to the authority of revelation. He would invert the order in which the essayist proposed to proceed. He should not begin with the principles of social science, and end with the dictates of revealed religion; but he would begin with revelation, and end with the arguments to be derived from social science. Let them take an example. It was a common observation—'Honesty is the best policy.' All would admit that axiom. But before he would expound this axiom, as derived from moral philosophy, or from social science, he should first give the child the Divine authority for the law—'Thou shalt not steal.' The child was to obey the command of God from love—love towards his good and beneficent Creator."

After remarks by Mr. Tilleard and other members, Mr. Tainah said, "He *did* consider the religious teaching, commonly given in our schools, a palpable sham, as Mr. Tilleard had represented it, for his own observation had led him to that conclusion; yet he did not think he would better have fulfilled his task by attempting to expose the sham, or to alter the system. He thought he had pointed out the *best* means for preventing misery and crime, inasmuch as the means suggested were those which struck directly at the root of the evils. He had not attempted to traverse the whole range of school appliances and teaching, and among other things had omitted what was called religious, or, more properly, theological teaching. He discovered throughout the whole of the objections, one leading thought, which appeared to him a radical error, viz., the supposition of antagonism between social economy and religion: that social economy took as its motive—*interest*, while religion took the higher motive—*duty*. He suggested that this notion arose from a misapprehension of the nature of social economy, which was indeed but the practical application of the religion of the Redeemer."

VI. GIDEON HAWLEY, LL.D

GIDEON HAWLEY, to whose superintendence was committed by the State of New York the inauguration of its system of popular education, was born in Huntington, Conn., September 20th, 1785. In 1794, his parents, Gideon and Sarah (Curtiss) Hawley, removed to the county of Saratoga, N. Y. In 1809 he graduated at Union College. He was immediately appointed a tutor in this institution, but in the spring of 1810 he resigned his place to pursue the study of law in Albany. He was just ready to enter upon his profession, when in January, 1813, he was appointed to the newly created office of Superintendent of Common Schools. At the end of eight years another political party became dominant in the state, and Mr. Hawley was superseded. In 1814 he was appointed to the secretaryship of the Regents of the University of the State of New York, in which office he was continued by annual reappointment till his resignation in 1841. In the following year the state legislature appointed him to fill a vacancy in the Board of Regents; and this office he still holds.

When Mr. Hawley was appointed Superintendent of Common Schools of the State of New York, the legislature had just set aside a system which had been found unequal in its operation and inadequate to the wants of the people. The school law of 1812 provided that the several towns in the state should be divided into school districts by three commissioners, elected by the citizens qualified to vote for town officers; that these trustees should be elected in each district, to whom should be confided the superintendence of the school to be established therein; that the interest of the school fund should be divided among the different counties and towns according to their respective population; that the proportion received by the respective towns, should be subdivided among the districts according to the number of children in each between the ages of five and fifteen years; that only those towns which should raise annually by tax as much money as they received from the school fund, should receive a share of the public money after the first distribution; that the gross amount of moneys received from the state and raised by the towns, should be appropriated exclusively to the payment of the wages of the teachers;

and that the whole system should be placed under the superintendence of an officer appointed by the council of appointment.

The superintendent found himself greatly embarrassed in carrying into effect the beneficent intentions of this law. In many towns there was not interest enough in the matter to comply with the conditions of the law. Where it was otherwise, in the complete reorganization of the schools supervision, extending often to the minutest details, and patient, laboring, persevering exposition were demanded. Furthermore, the law was found in some respects defective in its provisions, and obscure and doubtful in its meaning. Mr. Hawley encountered these difficulties with admirable tact, and discharged the duties of his office as efficiently as their multifarious and perplexing character would permit. He addressed himself also to the perfecting of the law. In accordance with the recommendations of his first annual report, presented February 4th, 1814, the legislature passed several amendments, the most important of which was to make it *obligatory* upon towns to comply with the act, and also on the board of supervisors of the several counties to levy on their respective towns a sum equal to the sum to be apportioned to such towns out of the public money.

It required the patient labor of years to bring the new system into full operation. Then it was impossible for several years to ascertain with much exactness what were its results, for the returns were far from being complete, and many were defective in one or more of their necessary requisites. Still, in 1810, Mr. Hawley was able to report that "the establishment of common schools by law, had already produced many great and beneficial results;" and that the great ends proposed under the wise and liberal policy of the legislature, namely, the establishment of schools whenever necessary, their organization on a suitable and permanent foundation, with safeguards against the admission of unqualified teachers, "had been so far accomplished as to warrant full faith in their final complete attainment." The average sum of public money then received by each district was twenty dollars, which gratuity Mr. Hawley considered important, as it tended to excite an interest in the affairs of common schools, and was also beneficial in many other respects. ?

In his fifth annual report, given under date of March 16th, 1816, Mr. Hawley stated that there were more than five thousand schools, in which upwards of two hundred thousand children were taught. "On comparing the returns of common schools however for different years, it appeared," to quote from the report, "that in almost every district, a greater proportion of the children between the ages of five and fifteen years have been taught, and a regular school supported for ?

a longer time in every succeeding year than in the preceding one. To this result so favorable to the establishment of common schools by law, it may be added—and it has not escaped the most transient observer—that, under the operation of this system, better teachers have been employed, a new and more respectable character given to our common schools, and a much greater interest existed in their behalf.”

To supply the deficiencies of the law of 1812, there was passed, in 1814, a new act, which was itself amended in 1815. Still time had developed many remaining imperfections, Mr. Hawley, in his report, suggested several particulars of the system which required amendments, and whilst allowing the inexpediency of subjecting a system once established to frequent revision without urgent cause, yet as in addition to the feasibility of improvement in various respects, there was need of consolidating the different acts on the subject, he submitted the propriety of revising the whole system. Mr. Hawley devoted a considerable part of his report to a consideration of the Lancasterian system, the introduction of which into common schools had been strongly recommended by Governor Clinton. The peculiar excellencies of this system were clearly pointed out by the superintendent, and its adoption, especially in all the larger schools in cities and villages, ably enforced. Under the impetus thus given, Lancasterian schools were established in many portions of the state, but without the favorable results anticipated. From what cause the experiment resulted in failure, is still in dispute.

In accordance with the recommendation of Mr. Hawley, on the 19th of April, 1819, the “Act for the support of Common Schools,” was re-enacted with the amendments which had been suggested. Mr. Hawley accompanied the publication of this revised act with an able exposition of its provisions, and with complete forms for the several proceedings required under it by the several officers connected with its administration.

On the 21st of February, 1821, Mr. Hawley transmitted to the legislature his eighth and last annual report as superintendent; from which it appeared that, in 545 towns from which returns had been received, there were 6,323 school districts organized according to law, from 5,489 of which particular district reports had been made, showing that of 317,633 children between the ages of five and fifteen years residing in those districts, 304,549 had been under instruction during portions of the year in the common schools. “The proportion,” observed the superintendent, “which, from the present returns, the number of children taught bears to the number between the ages

of five and fifteen years, is much greater than at any former period. In about one half of the towns in the state, the number taught exceeds the number between the ages of five and fifteen years; and taking the whole state together, the number taught is more than nineteen-twentieth of the number between these ages.

The average length of time for which schools have been kept for the last year, has also increased in about the same ratio as the number of children taught. There is now, therefore, reason to believe that the number of children in the state who do not attend any school, and who are not otherwise in the way of receiving any education, is very small. The public bounty is sufficient to defray the whole expense of most schools for about three months in the year; and where that is expended in different parts of the year, so as not to defray the whole expense of the school for any particular part, it is understood that in most districts poor children have been permitted to attend school free of expense, under that provision in the school act which empowers districts to exonerate those children from the payment of teachers' wages.* The readiness with which such permission has been generally granted, whenever it has been deserved, is very creditable to the public spirit and liberality of the inhabitants of school districts; and it is considered proper on this occasion, to bring the fact to the notice of the legislature. From these circumstances, in connection with the friendly disposition everywhere manifested in the cause of education, it is considered warrantable to infer that, of the rising generation in this state, very few individuals will arrive to maturity without the enjoyment and protection of a common education."

"To no individual in the state," to quote the testimony of Samuel S. Randall, Deputy Superintendent of the Common Schools of the State of New York, from whose "sketch of the origin, progress and present outline of the system" the materials of the preceding paragraphs have been chiefly derived, "to no individual in the state are the friends of common school education more deeply indebted for the impetus given to the cause of elementary instruction in its infancy, than to GIDEON HAWLEY. From a state of anarchy and confusion and complete disorganization, within a period of less than eight years, arose a beautiful and stately fabric, based upon the most impregnable foundations, sustained by an enlightened public sentiment, fortified by the best and most enduring affections of the people, and cherished as the safeguard of the state, the true palladium of its greatness and

* Not till 1840, when was passed "AN ACT TO ESTABLISH FREE SCHOOLS THROUGHOUT THE STATE," did New York possess a system of popular education absolutely free to all.

prosperity. Within this brief period the number of school districts had more than doubled, and the proportion of the children annually participating in the blessings of elementary instruction, increased from four-fifths to twenty-four twenty-fifths of the whole number residing in the state, of a suitable age to attend the public schools. When we take into view the disadvantages under which every new and untried system must, of necessity, labor before it can be commended to general adoption, and consider the immense variety of interests which were, to a greater or less extent, affected by the stringent provisions of the act of 1812, and its subsequent amendments, we can not fail of being surprised at the magnitude of the results which developed themselves under the administration of Mr. Hawley."

Mr. Hawley, through the insufficiency of his salary for his support, had to some extent followed the practice of his profession. But from the magnitude of his official labors, especially from the amount of correspondence required with the several thousand subordinate officers, who were all unfamiliar with the duties growing out of a system novel, at least, to them, and from his desire to promote the cause of common education, he withdrew more and more from professional pursuits. To that cause, which had now become the dearest object of his life, he had resolved to devote his whole time and whatever energy he possessed, when his plan was taken from him. In the offices which he has since successively filled, he has manifested his devotion to the same good cause. For the first twenty years that he was secretary of the Board of Regents, he would not accept any salary, considering that it would be an inconvenient charge on the small annuity at the disposal of the Regents for distribution among academies, at that time amounting to only twelve thousand dollars.

VII. GREEK VIEWS OF EDUCATION.

EXTRACTS FROM "A DISCOURSE TOUCHING THE NURTURE OF CHILDREN."

BY PLUTARCH. TRANSLATED BY SIMON FORD, D. D., 1718.

PARENTAGE.

I WOULD advise those who desire to become the parents of healthy and eminent children to choose partners of sound constitution, correct habits and unblemished reputation, and to live themselves lives of continence, and sobriety.* Wherefore it was gallantly done of the Lacedaemonian states, when they laid a round fine on their King Archidamus for marrying a little woman, giving this reason for their so doing, "that he meant to beget of such a wife not kings but kinglings." Diogenes said to a stripling somewhat crack-brained and half-witted: "Surely young man thy father begot thee when he was drunk."

CONDITIONS FOR THE HIGHEST SUCCESS IN EDUCATION.

For the complete education of children three things are requisite, nature, reason, and use. By reason I mean learning or knowledge, and by use, exercise, practice or habit. Of these learning assists nature with sound principles, and use contributes to form habits. If nature be not improved by learning, it is blind; if learning is not assisted by nature, it is maimed: and if exercise fail of the assistance of both, it is imperfect, as to the attainment of its end. And as in husbandry, it is first requisite that the soil be fertile, next that the husbandman be skillful, and lastly, that the seed he sows be good: so here nature resembles the soil, the instructor of youth the husbandman, and the rational principles and precepts which are taught, the seed. And all these I peremptorily affirm to have met and jointly conspired together, to the completing of the souls universally celebrated men, Pythagoras, Socrates, and Plato; together with all others, whose eminent worth hath gotten them immortal glory. And happy is that man certainly, and well beloved of the gods, on whom by the bounty of any of them, all these are conferred.

And yet, if any one think that those in whom nature hath not thoroughly done her part, may not in some measure make up her defects, if they be so happy as to light upon good teaching, and withal, apply their own industry towards the attainment of virtue he is to know that he is very much, if not altogether, mistaken. For as a good natural capacity may be impaired by slothfulness; so dull and heavy natural parts may be improved by instruction; and whereas negligent students arrive not at the capacity of understanding the most easy things, those who are industrious conquer the greatest difficulties. And many instances we may observe, that give us a clear demonstration of the mighty force, and successful efficacy, of labor and industry. For water continually dropping, will wear hard rocks hollow: yea, iron and brass are worn

* Condensed from two paragraphs in the original.

out with constant handling. Nor can we, if we would, reduce the follies of a cartwheel to their former straitness, when once the wheelwright's industry hath fixed them in that crooked form; yea it is above the power of any forcible means to straiten the bended staves sometimes used by actors upon the stage: so far is that which labor effects, though against nature, more potent than what is produced according to it. Yea, have we not many millions of instances more, which evidence the force of industry? Let us see in some few that follow. A man's ground is of itself good, yet if it be unmanured, it will contract barrenness; and by how much the better it was naturally, by so much will it be rendered the worse; if through carelessness it be ill husbanded. On the other side, let a man's ground be more than ordinarily rough and rugged; yet experience tells us, that if it be well manured, it will be quickly made capable of bearing excellent fruit: yea, what sort of tree is there which will not, if neglected, grow crooked and unfruitful; and what but will, if rightly ordered, prove fruitful, and bring its fruit to maturity? What strength of body is there, which will not lose its vigor and fall to decay, by laziness, nice usage and debauchery? And on the contrary, where is the man of never so crazy a natural constitution, who hath not by giving himself to exercise of activity, and strength, rendered himself more hardy and robust? What horse well managed from a colt, proves not easily governable by the rider? And where is there one to be found, which if not broken betimes, proves not stiff-necked and unmanageable? Yea, what is there more admirable, than to see the wildest beast made tame, and brought to hand by industry? And lastly, as to men themselves, that Thessalian answered not amiss, that being asked, "Which of his countrymen were the meekest?" "These," said he, "that have received their discharge from the wars."

POWER OF EDUCATION AND CUSTOM.

Lycurgus, the Lacedæmonian lawgiver, once took two whelps of the same litter, and ordered them to be bred in a quite different manner; whereby the one became scavel and ravenous, and the other of a good scent, and skilled in hunting; which done, a while after he took occasion thence in an assembly of the Lacedæmonians, to discourse in this manner: "It is of great advantage (fellow citizens,) to the attaining of virtue, when any one by the customary practice of wholesome instructions and precepts, is trained up in a way of living conducive thereunto, which I will presently let you see by example;" and withal, ordered the producing those two whelps into the midst of the hall, where also, there were set down before them a vessel wherein meat was wont to be boiled, and a live hare. Whereupon (as they had been bred,) the one presently flies upon the hare, and the other as greedily runs to the vessel. And while the people were musing (as not perfectly apprehending what he meant by producing those whelps thus,) "This," adds he, "is that I before told you; for you see these whelps do as they were bred; for though they are both of one litter, yet the diversity of breeding hath made the one a good hound, and the other a cur, good for nothing but to lick pots or dishes." And this shall suffice to be spoken concerning custom and different ways of living.

NURSING AND NURSES.

The nursing of children ought to be the mother's work. For this will be performed with more tenderness and carefulness by natural mothers, who will love

their children the more dearly, by means of their early and constant care of them. But if they find it impossible to do it themselves, then they must choose the honestest nurse they can get. The first thing to be looked after in this choice is that they be bred themselves after the Greek fashion. For as it is needful that the members of children be shaped aright as soon as they be born, that they may not afterwards prove crooked and distorted: so it is no less expedient, that their manners be well fashioned from the very beginning. For childhood is a tender thing, and easily wrought into any shape: yea, and the very souls of children readily receive the impressions of those things that are dropped into them; even because they are yet but soft: but when they grow older, will (as all hard things are) be more difficult to be wrought upon. And as soft wax is apt to take the stamp of the seal, so are the minds of children to receive the instructions imprinted on them at that age. Whence also it seems to me good advice which divine Plato gives to nurses, "Not to tell all sorts of common tales to children in infancy, lest thereby their minds should be in danger to be filled with foolish and corrupt notions." The like good counsel doth Phocylides the poet, adventure to give in this verse of his.

"If we'll have virtuous children, we should choose
Their tenderest age, good principles to infuse."

Nor are we to omit the taking due care, that those children who are appointed to attend upon such young nurslings, and to be bred with them for play-fellows, be in the first place well-mannered, and next, that they speak plain natural Greek: lest that being constantly used to converse with persons of a barbarous language, and evil manners, they receive corrupt tinctures from them. For it is a true proverb, that "he who lives with a lame man, will learn of him to halt."

CHOICE OF TEACHERS.

When a child is arrived at such an age, as to be capable of the teaching of pedagogues, here great care is to be used, that we be not deceived in them, and so commit that truth to slaves or barbarians, or cheating fellows. For it is a course never enough to be laught at, which most men now-a-days take in this affair, who, if any of their servants be better than the rest, dispose some of them to follow husbandry, some to navigation, some to merchandise, some to be stewards in their houses, and some lastly, to put out their money to use for them: but if they find any slave that is a drunkard or a glutton, and unfit for any other business; to him they assign the government of their children; whereas a good schoolmaster ought to be such an one for his disposition, as* Phoenix, tutor to Achilles, was.

And now I come to speak of that which is a greater matter, and of more concern than any that I have said. We are to look after such masters for our children, as are blameless in their lives, not justly reprobable for their manners, and of the best experience in teaching. For the very spring and root of honesty and virtue, lies in the felicity of lighting on good education. And as husbandmen are wont to set forks to prop up feeble plants, so do honest schoolmasters prop up youth by careful instructions and admonitions, that they may duly

* It appears by his discourse of himself to Achilles, Iliad IX., that he was well born: and Homer calls him *ἰσθαλαρὴς γένειον* an ancient horseman, which was in those days an honorable employment.

bring forth the buds of good manners. But there are certain fathers now-a-days, who deserve that men should spit on them in contempt, that before any proof made of those to whom they design to commit the teaching of their children, either through unacquaintance, or (as it sometimes falls out) through unskillfulness, intrust them with men of no good reputation; or it may be, such as are branded with infamy; although they are not altogether so ridiculous, if they offend herein through unskillfulness. But it is a thing most extremely absurd, when (as oftentimes it happens) though they know and are told beforehand by those who understand better than themselves, both of the inability and debauchery of certain schoolmasters; yet either being overcome by their fair and flattering speeches, or prevailed with to gratify such friends as speak on their behalf, they nevertheless commit the charge of their children to them; which is an error of like nature with that of the sick man, who to pleasure his friends, forbears to send for the physician that might save his life by his skill, and employs a mountebank, that quickly dispatcheth him out of the world: or him, who refusing a skillful shipmaster, at his friends' entreaty, commits the care of his vessel to one that is therein much his inferior. In the name of Jupiter and all the gods, tell me, how can that man deserve the name of a father, who is more concerned to gratify others in their requests, than to have his children well educated! Or, is it not rather fitly applicable to this case, which Crates that ancient philosopher was wont to say, that if he could get up to the highest place in the city, he would lift up his voice, and make this proclamation thence, "What mean you (fellow citizens) that you thus turn every stone to scrape wealth together, and take so little care of your children, to whom, one day, you must relinquish it all?" to which I would add this, "that such parents do like him that is solicitous about his shoe, but neglects the foot that is to wear it." And yet many fathers there are, that so love their money, and hate their children, that lest it should cost them more than they are willing to spare, to hire a good schoolmaster for them, rather choose such persons to instruct their children, as are of no worth; thereby beating down the market, that they may purchase a cheap ignorance. It was, therefore, a witty and handsome jeer which Aristippus bestowed on a sottish father, by whom being asked, "what he would take to teach his child?" he answered, "a thousand drachmas." Whereupon the other crying out, "O Hercules! how much out of the way you ask! for I can buy a slave at that rate." "Do then," said the philosopher, "and thou shalt instead of one, purchase two slaves for thy money; him that thou buyest for one, and thy son for another." Lastly, how absurd is it, when thou accustomest thy children to take their food with thy right hands, and chidest them if they receive it with their left, yet thou takest no care at all, that the principles that are infused into them, be right and regular.

RESULTS OF BAD TEACHING.

And now I will tell you (because it is well worth the hearing) what ordinarily is like to befall such monstrous parents, when they have had their sons thus ill nursed and worse taught. For when such are arrived at man's estate; and through contempt of a sound and orderly way of living, shall precipitate themselves into all manner of disorderly and servile pleasures: then will those parents dearly repent, when it is too late to amend it, and vex themselves even to distraction for those vicious courses of their children, unto which their own neglect hath betrayed them.

BENEFITS OF GOOD TEACHING.

In brief therefore, I say, (and it may be what I say may justly challenge the repute of oracles rather than advices) that the chief thing considerable in this matter, and which compriseth the beginning, middle and end of all, is good education and regular instructions; and that these two afford great helps and assistances towards the attainment of virtue and felicity. For all other good things are but human and of small value, such as will hardly recompense the industry required to the getting of them. It is indeed, a desirable thing to be well descended: but 'tis of our ancestors' goods, not our own: riches are valuable, but the goods of fortune (which frequently takes them from those that have them, and carries them to those that never so much as hoped for them:) yea, the greater they are, the fairer mark are they for those to aim at, who design to make our bags their prize, I mean, evil servants and sycophants, and (which is the weightiest consideration of all,) they are of such good things as may be enjoyed by the worst as well as the best of men. Glory is a thing deserving respect, but unstable; beauty is a prize that men fight to obtain, but when obtained, 'tis of little continuance; health, a precious enjoyment, but easily impaired: strength, a thing desirable, but apt to be the prey of diseases and old age; and that, which it is a great mistake in any man, even whilst he enjoys it, to value himself upon; for what indeed is any proportion of human strength, if compared to that of other animals, such as elephants, and bulls, and lions? But learning alone, of all things in our possession, is immortal and divine; and two things there are that are most peculiar to human nature, understanding and reason; of which two, the understanding is the master of reason, and reason the servant of the understanding. Which is against all assaults of fortune impregnable; not to be taken away by false accusation, nor impaired by sickness, nor enfeebled by old age. For the understanding only grows youthful by age, and time which decays all other things, increaseth knowledge in us in our decaying years. Yea, war itself, which, like a torrent, bears down all other things before it, and carries them away with it, leaves learning only behind it to the possessor. Whence the answer which Stilpo, a philosopher of Megara, gave to Demetrius, seems to me very remarkable, who when he leveled that city to the ground, and made all the citizens bondmen, asked Stilpo whether he had lost anything? "Nothing," said he, "for war can not plunder virtue." To which saying, that of Socrates also is very consonant; who when Gorgias asked him, "What his opinion was of the king of Persia, and whether he judged him happy?" returned answer, "that he could not tell what to think of him, because he knew not how well he was furnished with virtue and learning," as judging human felicity to consist in those endowments and not in those which are subject to fortune.

THE KIND OF LEARNING TO BE GAINED.

Moreover, as it is my advice to parents, that they make the breeding up of their children to learning, the chiefest of their care: so I here add, that the learning they ought to train them up unto, should be sound and wholesome; and such as is most remote from those trifles which most suit the popular humor. For that which most pleaseth the many, is displeasing to men of understanding. To which saying of mine, that of Euripides himself attests (in his Hippolytus.)

"I'm better skill'd to treat a few my peers,
Than in a crowd to tickle vulgar ears:
Though others have the luck on't when they babble
Most, to the wise, then most to please the rabble."

Besides, I find by my own observation, that those persons who make it their business to speak so as to deserve the favor and approbation of the scum of the people, ordinarily live at a suitable rate, voluptuously and intemperately. And there is reason for it. For they who have no regard to what is honest, so they may make provision for other men's pleasures, will surely not be very prone to prefer what is right and wholesome, before that which gratifies their own inordinate pleasures and luxurious inclinations, and quit that which humors them, for that which restrains them.

If any one ask, "What the next thing is wherein I would have children instructed, and what further good qualities I would have them inured unto;" I answer, "that I think it advisable, "that they neither speak, nor do anything rashly:" for (according to the proverb,) "the best things are most difficult."

POWER AND HABIT OF PUBLIC SPEAKING.

Neither speak or do anything rashly, or without special preparation. For the best things are most difficult. Besides other faults which those who speak suddenly are commonly guilty of, they are commonly liable to this great one, that they multiply words without measure, whereas premeditation will not suffer a man to enlarge his discourse beyond a due proportion. To which purpose it is reported of Pericles, that being often called upon by the people to speak, he would not: "Because he was" (as he said,) "unprepared." And Demosthenes also, who imitated him in the managery of public affairs, when the Athenians urged him to give his counsel, refused it with this answer, "I am not ready for it." * * A wretched painter (they say) showing Apelles a picture, told him withal, "that he had taken a very little time to draw it:" "If thou hadst not told me so," said Apelles, "I see cause enough to believe it was a hasty draught: but I wonder that in that space of time, thou hast not drawn many more such pictures."

PHILOSOPHY THE CHIEF THING.

Though in order to the welfare of the body, the industry of men hath found out two arts, that of medicine, which assists to the recovery of lost health; and that which teacheth exercises of activity, which helps us to attain a sound constitution: yet, there is but one art only capable of curing the distempers and diseases of the mind, and that is philosophy. For by the advice and assistance thereof it is, that we come to understand what is honest, and what dishonest: what is just, and what unjust: in a word, what we are to desire, and what to avoid. We learn how we are to demean ourselves towards the gods, towards our parents, our elders, the laws, strangers, governors, friends, wives, children and servants. That is, to worship the gods, to honor our parents, to reverence our elders, to be subject to the laws, to obey our governors, to love our friends, to use sobriety towards our wives, to be affectionate to our children, and not insolently to injure our servants: and (which is the chiefest lesson of all) not to be overjoyed in prosperity, nor too much dejected in adversity; not to be dissolute in our pleasures, nor in our anger to be transported with brutish rage and fury. These things I account the principal advantages which we gain

by philosophy. For to use prosperity generously, is the part of a man; to manage it so as to decline envy, of a well governed man; to master our pleasures by reason, is the property of wise men; and to moderate anger is the attainment only of extraordinary men. But those, of all men, I count most complete, who know how to mix and contemper the managery of civil affairs with philosophy; seeing they are thereby masters of two of the greatest good things that are, the promoting public felicity by governing well, and the enjoying a calm tranquillity in their own bosoms, by improving philosophical principles.

PHYSICAL EDUCATION AND TRAINING.

Parents should not neglect the bodies of their children, but must send them to schools where these will be subjected to proper exercise which will conduce to a handsome carriage and improvement of strength. For the foundation of a vigorous old age, is a good constitution of the body in a man's childhood. Wherefore, as it is expedient to provide those things in a calm, which may be useful to the mariners in a storm: so is it, to keep good order, and govern ourselves by rules of temperance in youth; the effects whereof, are the best provision we can lay in for age. Yet must they husband their strength so, as that by the too violent exercises of youth, they spend not their radical moisture, and through bodily infirmity, be disabled cheerfully to follow their studies. For, (according to Plato,) "Sleep and weariness are enemies to the arts."

But why do I stand so long on these things; and not rather, as I desire, hasten to that which is chiefly to be done beyond all that has been said? Among the exercises of children therefore, I would have them inured to such contests as have some resemblance of war: that is, to contend in throwing of darts, shooting of arrows, and hunting of wild beasts, in which last (as in war) the goods of the conquered are proposed as rewards to the conquerors. And war will not agree with a gross constitution of body, pampered up by living always in the shade. For one compact well trained soldier that hath been used to military exercises, shall overthrow whole troops of such enemies as are acquainted with no contests, but feencings and wrestlings in a theater.

MOTIVES TO STUDY.

Children are rather to be won to follow their studies by exhortations and rational motives, than forced thereto by whipping, or any other humiliating punishments. For such usage seems to be more agreeable to slaves, than to ingenuous children. For they when thus handled, are dulled and discouraged from the performance of their tasks; partly, by reason of the smart of their stripes; and partly, because of the disgrace thereby inflicted. But praises and reprehensions are more effectual upon free-born children, than any such disgraceful handling: the former, to incite them to what is good, and the latter to restrain them from that which is evil. But we must use reprehensions and commendations alternately, according to the variety of occasions: so that when they grow petulant, they be shamed by reprehension; and again when they better deserve it, be encouraged by commendations.

Children are sometimes over-tasked whereby they fall under discouragement, and that with other inconveniencies accompanying it, causeth them in the issue, to be ill affected to learning itself. For as plants by moderate watering are nourished, but with overmuch moisture are glutted: so is the spirit improved by moderate labors, but overwhelmed by such as are excessive. We ought

therefore to give children some respite from their constant labors: as considering that all human life is divided betwixt business and relaxation. To which purpose it is, that we are not only inclined by nature to wake, but to sleep also: that as we have sometimes wars, so likewise at other times peace; as some foul, so other fair days: and as seasons of important business, so also the vacation times of festivals: and (to contract all in a word,) "rest is the sauce of labor." Nor is it thus in living creatures only, but in things inanimate too. For even in bows and harps, we loosen their strings, that we may bend and wind them up again.

PARENTAL CO-OPERATION WITH THE TEACHERS.

Those parents, moreover, are to be blamed, who when they have committed their sons to the instruction of teachers, or schoolmasters, do seldom or never see them perform their tasks, or hear them give an account of their lessons. Wherein they fail much of their duty. For they ought ever and anon, after the intermission of some days, to make trial of their childrens' proficiency: and not intrust their hopes of them, only to the conduct of a mercenary. For even that sort of men will take more care of the children, when they know themselves at every such season are so to be called to account. Whereunto the saying of that king's groom is very agreeable, who told his master, that "nothing so much made his horse fat, as his master's eye."

MEMORY.

But we must most of all exercise and keep in constant employment the memory of children: for that is, as it were, the storehouse of all learning. Wherefore the mythologists (or writers of fabulous history) have made *mnemosyne* (or memory) the mother of the muses; plainly intimating thereby, that nothing doth so beget or nourish learning as memory doth. Wherefore we must employ it to both those purposes, whether the children be naturally apt, or backward to remember. For so shall we both strengthen it in those to whom nature in this respect hath been bountiful, and supply that to others, wherein she hath been deficient: and as the former sort of boys will thereby come to excel others, so will the latter sort themselves. For that of Hesiod was well said,

" Oft little add to little, and th' account
Will swell: heapt atoms thus produce a mount."

Neither therefore let the parents be ignorant of this, that the exercising of memory in the schools, doth not only give assistance towards the attainment of learning: but also to all the actions of life. For the remembrance of things past affords us examples in our consults about things to come.

MORALS AND MANNERS.

Children ought to be made to abstain from speaking filthily: seeing (as Democritus said,) "Words are but the shadows of actions." They are moreover to be instructed to be affable and courteous in discourse. For nothing is so odious, as the manners of those men, whom others know not how to speak to. And one way also, to render children acceptable to others in conversation, is this; if they be not pertinaciously bent to maintain all they say in dispute. For it is of use to a man to understand not only how to overcome, but also how to give ground, when to conquer, would turn rather to his disadvantage: for

there is such a thing sometimes, as a "Cadmean victory;" to which the wise Euripides attesteth, when he saith,

"Where two discourse, if the one's anger rise,
The man who lets the contest fall, is wise."

Add we now to these things some other, which children ought to have no less care of, yea, rather indeed, greater. To wit, "that they avoid luxurious living, bridle their tongues, subdue anger, and refrain their hands." Of how great moment each of these counsels is, I now come to inquire, and we may best judge of them by examples. To begin with the last, some men there have been, who by opening their hands to take what they ought not, have lost all the honor they got in the former part of their lives. So Gylippus, the Lacedæmonian, for unsowing the public moneybags, was condemned to banishment from Sparta. And to be able also to subdue anger, is the part of a wise man: For such an one was Socrates, who when an hectoring and debauched young man rudely kicked him, so that those in his company being sorely offended, were ready to run after him, and call him to account for it; "What," said he to them, "if an ass had kicked me, would you think it handsomely done to kick him again?" And yet the young man himself escaped not unpunished; for when all persons reproached him for so unworthy an act, and gave him the nickname of the Kicker, he hanged himself. The same Socrates, when Aristophanes publishing his play which he calls the "Clouds," therein threw all sorts of the foulest reproaches upon him; and a friend of his, who was present at the acting of it, repeated to him what was there said in the same comical manner, asking him withal, "Does not this offend you, Socrates?" "Not at all," answered he; "For I can as well bear with a fool in a play, as at a great feast." And something of the same nature is reported to have been done by Archytas of Tarentum, and Plato. Of whom, the one (Archytas,) when upon his return from the war, (wherein he had been general) one informed him, that his land had been impaired by his bailiff's negligence, sent for him, and said only thus to him when he came: "If I were not very angry with thee, I would severely correct thee." And the other (Plato) being offended with a fine mouthed and debauched servant, called to him Speusippus his sister's son, and said unto him, "Go beat thou this fellow, for I am too much offended with him, to do it myself."

These things, you will perhaps say, are very difficult to be imitated. I confess it, but yet we must endeavor to the utmost of our power, by setting such examples before us, to repress the extravagancy of our immoderate furious anger: For neither are we able to equal them in many other instances, wherein their wisdom and virtue excels ours; but we do nevertheless (as the sacred interpreters of divine mysteries, and the priests of wisdom) so far as we are able, follow their examples, and enrich ourselves with their flings.

And as to the bridling of the tongue, concerning which also, I am obliged to speak: if any man think it a small matter, or of mean concernment, he is much mistaken? For it is a point of wisdom, to be silent when occasion requires; and better than to speak, though never so well. And in my judgment, for this reason, the ancients instituted "mystical rites" of initiation in religion; that being in them accustomed to silence, we might thence transfer the fear we have of the gods, to the fidelity required in human secrets. Yea, indeed, experience shows, that no man ever repented of having kept silence; but many that

they have not done so; and a man may when he will, easily utter what he hath by silence concealed; but it is impossible for him to recall what he hath spoken. And moreover, I can remember infinite examples that have been told me, of those that have procured great damages to themselves, by the intemperance of the tongue: of which, omitting all the rest, I will give for a proof, only one or two instances. When Ptolemæus Philadelphus had taken his sister Arsinoë to wise Sotades, for breaking an obscene jest upon him, lay languishing in prison a great while; a punishment which he deserved for his unseasonable babbling, whereby to provoke laughter in others, he purchased a long time of mourning to himself. Much after the same rate, or rather worse of the two, did Theocritus the Sophister, both talk and suffer. For when Alexander commanded the Grecians to provide him a "purple robe," wherein, upon his return from the wars, he meant to sacrifice to the gods, in gratitude, for his victorious success against the barbarians; and for that purpose, received a sum of money from the nation under his command: "I doubted formerly," (said he,) "what Homer meant by that frequent phrase of his, (purple death,) but now I understand him." By which speech, he, from that time forward, made the king his enemy. The same person provoked Antigonus the king of Macedonia, to great wrath, by reproaching him with his defects, "as having but one eye." Thus it was, Antigonus commanded Eutropion his master-cook, (then in waiting,) to make up some accounts with this Theocritus; who often resorting to him upon that business, and telling him he came by the king's command; "I know," said he, "that thou hast a mind to dish me up raw to that cyclops;" reproaching therein, at once, both the king his master, with the want of his eye, and the cook his servant, with his employment. To which Eutropion replied, ("My master indeed wants an eye, but) it shall not be long e're thou want an head, for the wideness and rudeness of thy mouth." And he was as good as his word, for he departed and informed the king, who sent and put Theocritus to death.

Besides all these things, we are to accustom children to speak the *truth*, and to account it, as indeed it is, a matter of religion to do so. For lying is a servile quality, deserving the hatred of all mankind: yea, a fault which we ought not to forgive our meanest servants themselves.

PARENTAL CARE TO BE EXTENDED TO THE PERIOD OF YOUTH.

I have often had occasion to blame parents, who when they have committed the infancy of their children to the inspection of masters and governors, extend the care of them no farther, but suffer the heats of youth to spend themselves under no restraint: whereas, indeed, children in that age, do most need to be kept under a stricter guard than ordinary: for who is there that knows not that the errors of childhood are small, and generally capable of being amended; such as slighting their masters, or disobedience to their instructions. But when they begin to grow towards maturity, their offenses are oftentimes very great and heinous, such as gluttony, pilfering money from their parents, dicing, revelings, drunkenness and licentiousness. Wherefore it is expedient that such impetuous heats should with great care be kept under and restrained. For the ripeness of that age admits no bounds in its pleasures, is skittish, and needs a curb to check it: so that those, who do not about that time, with great strength hold them in, are forced against their wills, to give their vicious inclinations their full swing in the pursuit of the vilest actions. Wherefore, it is a duty incumbent upon wise parents, in that age especially, to set a strict watch upon

them; and keep them within the bounds of sobriety, by instructions, threatenings, entreaties, counsels, promises; and laying before them examples of those men on one side, who by immoderate love of pleasures, have brought themselves into great mischiefs; and those, on the other, who by abstinence in the pursuit of them, have purchased to themselves very great praise and glory. For these two things (hope of honor, and fear of punishment) are in a sort, the first elements of virtue: the former whereof spurs men on the more eagerly, to the pursuit of honest studies: and the latter blunts the edge of their inclinations to vicious courses. And in sum, it is necessary to restrain young men from the conversation of debauched persons, lest they take infection from their evil examples. A thing which (among others) Pythagoras taught in certain enigmatical sentences: which I shall here relate and expound, as being greatly useful to further virtuous inclinations. Such as these, (taste not of creatures that have black tails;) that is, converse not with men that are smutted with vicious qualities. (Stride not over the beam of a pair of scales;) wherein he teacheth us the regard we ought to have for justice, so as not to go beyond its measures. (Sit not on a * chaenia;) wherein he forbids sloth, and requires us to take care to provide ourselves of necessaries for a livelihood. (Do not strike hands with every man.) He means, we ought not to be over hasty to make acquaintances or friendships with others. (Wear not a straight ring.) That is, we are to labor after a free and undepending way of living, and not to be indebted to others. (Stir not up the fire with a sword.) Signifying that we ought not to provoke one more, who is angry already (as being an act of great indecency,) but rather comply with them while their passion is in its heat. (Eat not of a heart.) Which forbids to afflict our souls, and spend our spirits with vexatious cares. (Abstain from beans.) That is, keep out of public offices: for anciently, new magistrates were chosen, and the old discharged by suffrages, numbered by beans. (Put not food in a chamber-pot.) Wherein he declares the unsuitableness of a good discourse (such as is fit to nourish the mind) to one whose mind is prepossessed with vicious habits: as that which is endangered to defilement from such men. (When men are arrived at the goal, they should not return back again.) That is, those who are near the end of their days, and see the period of their lives approaching, ought to entertain it contentedly, and not be grieved at it.

PARENTAL EXAMPLE.

The chiefest thing that fathers are to look to, is, that they themselves become effectual examples to their children,† by doing all those things which belong to them, and avoiding all vicious practices, that in their lives, as in a glass, they may see enough to give them an aversion to all ill words and actions. For those that chide children for such faults as they themselves fall into, though they think not so, yet under their children's names, accuse themselves. And if they be altogether vicious in their lives, they lose to themselves the freedom of reprehending their very servants, and much more do they forfeit it towards their son: yea, which is more than that, they make themselves even counselors and instructors to them in wickedness. For where old men are impudent, there of

* A measure among the Grecians, containing about the fourth part of a peck; or, some say, so much as was allowed one man for a day's food.

† Some read the Greek not only by not offending in anything themselves, but also by doing their own duty in all things.

necessity must the young men be so too. Wherefore we are to apply our minds to all such studies, as may conduce to the well-breeding of our children. Whereof, we may take example even from a woman, and a woman too of a nation, than which, there is none more barbarous, that is, an Illyrian. Her name was Eurydice of Hierapolis, who to enable her the better to teach her children, when she was herself in her declining age, applied herself to the study of learning: whose love herein, how great it was toward her children, appears evidently in this epigram of hers, which she dedicated to the muses.

"Eurydice t' her sister-muses praise

Of her true love, this monument doth raise,

Who her grown sons that she might scholars breed,

(Then, well in years) herself first learned to read."

EDUCATION SHOULD BE UNIVERSAL.

It is my desire that all children whatsoever might partake of the benefit of education alike: but if yet any persons, by reason of the narrowness of their estates, can not make use of my precepts, let them not blame me that give them, but fortune, which disableth them from making the advantage they otherwise might, by them. Though yet even poor men must use their utmost endeavor to give their children the best education; or if they can not, they must bestow upon them the best that their abilities will reach.

VIII. ROMAN THOUGHTS ON EDUCATION.

SELECTED FROM QUINTILIAN'S "INSTITUTES OF ORATORY—OR THE EDUCATION OF AN ORATOR."

PARENTS SHOULD BE HOPEFUL.

LET a father, then, as soon as his son is born, conceive, first of all, the best possible hopes of him; for he will thus grow the more solicitous about his improvement from the very beginning; since it is a complaint without foundation that "to very few people is granted the faculty of comprehending what is imparted to them, and that most, through dullness of understanding, lose their labor and their time." For, on the contrary, you will find the greater number of men both ready in conceiving and quick in learning; since such quickness is natural to man; and as birds are born to fly, horses to run, and wild beasts to show fierceness, so to us peculiarly belong activity and sagacity of understanding; whence the origin of the mind is thought to be from heaven.

NURSES.

It is they that the child will hear first; it is their words that he will try to form by imitation. We are by nature most tenacious of what we have imbibed in our infant years; as the flavor, with which you scent vessels when new, remains in them; nor can the colors of wool, for which its plain whiteness has been exchanged, be effaced; and those very habits, which are of a more objectionable nature, adhere with the greater tenacity; for good ones are easily changed for the worse, but when will you change bad ones into good? Let the child not be accustomed, therefore, even while he is yet an infant, to phraseology which must be unlearned.

PARENTS.

In parents I should wish that there should be as much learning as possible. Nor do I speak, indeed, merely of fathers; for we have heard that Cornelia, the mother of the Gracchi (whose very learned writing in her letters has come down to posterity,) contributed greatly to their eloquence; the daughter of Lælius is said to have exhibited her father's elegance in her conversation; and the oration of the daughter of Quintus Hortensius, delivered before the Triumviri, is read not merely as an honor to her sex. Nor let those parents, who have not had the fortune to get learning themselves, bestow the less care on the instruction of their children, but let them, on this very account, be more solicitous as to other particulars.

PÆDAGOGI.

Of pædagogⁱ* this further may be said, that they should either be men of ac-

* There is no word in our language for the *pædagogus*, who was a slave of good character, and sometimes of some education, that had the charge of young persons, but was quite distinct from the *διδάσκαλος*; or *præceptor*.

knowledgeed learning, which I should wish to be the first object, or that they should be conscious of their want of learning; for none are more pernicious than those who, having gone some little beyond the first elements, clothe themselves in a mistaken persuasion of their own knowledge; since they disdain to yield to those who are skilled in teaching, and, growing imperious, and sometimes fierce, in a certain right, as it were, of exercising their authority (with which that sort of men are generally puffed up,) they teach only their own folly. Nor is their misconduct less prejudicial to the manners of their pupils; for Leonides, the tutor of Alexander, as is related by Diogenes of Babylon, tintured him with certain bad habits, which adhered to him, from his childish education, even when he was grown up and become the greatest of kings.

If however it should not be the good fortune of children to have such nurses as I should wish, let them at least have one attentive *pædagogus*, not unskilled in language, who, if anything is spoken incorrectly by the nurse in the presence of his pupil, may at once correct it, and not let it settle in his mind. But let it be understood that what I prescribed at first is the right course, and this only a remedy.

INSTRUCTION SHOULD BEGIN EARLY, BE MADE AGREEABLE, AND GIVEN BY THE BEST TEACHERS.

Some have thought that boys, as long as they are under seven years of age, should not be set to learn, because that is the earliest age that can understand what is taught, and endure the labor of learning. Of which opinion a great many writers say that Hesiod was, other writers likewise, among whom is Erastothenes, keeper of the Alexandrian library, have given the same advice. Those, however, advise better, who, like Chrysippus, think that no part of a child's life should be exempt from tuition; for Chrysippus, though he has allowed three years to the nurses, yet is of opinion that the minds of children may be imbued with excellent instruction even by them. And why should not that age be under the influence of learning, which is now confessedly subject to moral influence?

Let his instruction be an amusement to him; let him be questioned, and praised; and let him never feel pleased that he does not know a thing; and sometimes, if he is unwilling to learn, let another be taught before him, of whom he may be envious. Let him strive for victory now and then, and generally suppose that he gains it; and let his powers be called forth by rewards, such as that age prizes.

Would Philip, king of Macedonia, have wished the first principles of learning to be communicated to his son Alexander by Aristotle, the greatest philosopher of that age, or would Aristotle have undertaken that office, if they had not both thought that the first rudiments of instruction are best treated by the most accomplished teacher, and have an influence on the whole course?

LEARNING THE ALPHABET.

The method (of learning the names and position in the alphabet of the letters before they learn their shapes) hinders their recognition of them, as, while they follow their memory that takes the lead, they do not fix their attention on the forms of the letters. This is the reason why teachers, even when they appear to have fixed them sufficiently in the minds of children, in the straight order in which they are usually first written, make them go over them again the con-

trary way, and confuse them by variously changing the arrangement, until their pupils know them by their shape, not by their place. It will be best for children, therefore, to be taught the appearances and names of the letters, at once, as they are taught those of men. But that which is hurtful with regard to letters, will be no impediment with regard to syllables. I do not disapprove, however, the practice, which is well known, of giving children, for the sake of stimulating them to learn, ivory figures of letters to play with, or whatever else can be invented, in which that infantine age may take delight, and which may be pleasing to handle, look at, or name.

But as soon as the child shall have begun to trace the forms of the letters, it will not be improper that they should be cut for him, as exactly as possible, on a board, that his style* may be guided along them as along grooves, for he will then make no mistakes, as on wax (since he will be kept in by the edge on each side, and will be unable to stray beyond the boundary;) and, by following these sure traces rapidly and frequently, he will form his hand, and not require the assistance of a person to guide his hand with his own hand placed over it.

PENMANSHIP.

The accomplishment of writing well and expeditiously, which is commonly disregarded by people of quality, is by no means an indifferent matter; for as writing itself is the principal thing in our studies, and that by which alone sure proficiency, resting on the deepest roots, is secured, a too slow way of writing retards thought, a rude and confused hand can not be read: and hence follows another task, that of reading off what is to be copied from the writing. At all times, therefore, and in all places, and especially in writing private and familiar letters, it will be a source of pleasure to us, not to have neglected even this acquirement.

READING, WRITING, DEFINITIONS, AND PRONUNCIATION.

For learning syllables there is no short way; they must all be learned throughout; nor are the most difficult of them, as is the general practice, to be postponed, that children may be at a loss, forsooth, in writing words. Moreover, we must not even trust to the first learning by heart; it will be better to have syllables repeated, and to impress them long upon the memory; and in reading too, not to hurry on, in order to make it continuous or quick, until the clear and certain connection of the letters become familiar, without at least any necessity to stop for recollection. Let the pupil then begin to form words from syllables, and to join phrases together from words. It is incredible how much retardation is caused to reading by haste; for hence arise hesitation, interruption, and repetition, as children attempt more than they can manage: and then, after making mistakes, they become distrustful even of what they know. Let reading, therefore, be at first sure, then continuous, and for a long time slow, until, by exercise, a correct quickness is gained. For to look to the right, as everybody teaches, and to look forward, depends not merely on rule, but on habit, since, while the child is looking to what follows, he has to pronounce what goes before, and, what is very difficult, the direction of his thoughts must be divided, so that one duty may be discharged with his voice, and another with his eyes.

* The iron pencil used for writing on waxed tablets.

When the child shall have begun, as is the practice, to write words, it will cause no regret if we take care that he may not waste his efforts on common words, and such as perpetually occur. For he may readily learn the explanations of obscure terms, which the Greeks call *λυσισμῶν*, while some other occupation is before him, and acquire, amidst his first rudiments, a knowledge of that which would afterwards demand a special time for it. Since, too, we are still attending to small matters, I would express a wish that even the lines, which are set him for his imitation in writing, should not contain useless sentences, but such as convey some moral instruction. The remembrance of such admonitions will attend him to old age, and will be of use even for the formation of his character. It is possible for him, also, to learn the sayings of eminent men, and select passages, chiefly from the poets (for the reading of poets is more pleasing to the young,) in his play-time; since memory (as I shall show in its proper place) is most necessary to an orator, and is eminently strengthened and nourished by exercise; and, at the age of which we are now speaking, and which can not, as yet, produce anything of itself, it is almost the only faculty that can be improved by the aid of teachers. It will not be improper, however, to require of boys of this age (in order that their pronunciation may be fuller and their speech more distinct) to roll forth, as rapidly as possible, certain words and lines of studied difficulty, composed of several syllables, and those roughly clashing together, and, as it were, rugged-sounding; the Greeks call them *καλῶς*. This may seem a trifling matter to mention, but when it is neglected, many faults of pronunciation, unless they are removed in the years of youth, are fixed by incorrigible ill habit for the rest of life.

PUBLIC SCHOOLS AND FAMILY OR PRIVATE TUITION COMPARED.

As soon as the child is of age to apply himself to learning in earnest, the question must be considered, whether it be more advantageous to confine the learner at home, and within the walls of a private house, or to commit him to the large numbers of a school, and, as it were, to public teachers.* The latter mode, I observe, has had the sanction of those by whom the polity of the most eminent states was settled, as well as that of the most illustrious authors.

People think that morals are corrupted in schools; for indeed they are at times corrupted; but such may be the case even at home. Many proofs of this fact may be adduced; proofs of character having been vitiated, as well as preserved with the utmost purity, under both modes of education. It is the disposition of the individual pupil, and the care taken of him, that make the whole difference. Suppose that his mind be prone to vice, suppose that there be neglect in forming and guarding his morals in early youth, seclusion would afford no less opportunity for immorality than publicity; for the private tutor may be himself of bad character; nor is intercourse with vicious slaves at all safer than that with immodest freeborn youths. But if his disposition be good, and if there be not a blind and indolent negligence on the part of his parents, it will be possible for them to select a tutor of irreproachable character, (a matter to which the utmost attention is paid by sensible parents,) and to fix on a course

* Quintilian himself is mentioned by St. Jerome, in Eusebius's *Chronicon*, as the first master of a public school that received a stipend from the emperor; and perhaps, according to the mode of speaking in those times, he could not properly be called a public teacher, for the very reason that he received his pay, not from the public treasury, but from the emperor's privy purse.

of instruction of the very strictest kind; while they may at the same time place at the elbow of their son some influential friend or faithful freedman, whose constant attendance may improve even those of whom apprehensions may be entertained.

The remedy for this object of fear is easy. Would that we ourselves did not corrupt the morals of our children! We enervate their very infancy with luxuries. That delicacy of education, which we call fondness, weakens all the powers, both of body and mind. What luxury will he not covet in his manhood, who crawls about on purple! He can not yet articulate his first words, when he already distinguishes scarlet, and wants his purple. We form the palate of children before we form their pronunciation. They grow up in sedan chairs; if they touch the ground, they hang by the hands of attendants supporting them on each side. We are delighted if they utter any thing immodest. Expressions which would not be tolerated even from the effeminate youths of Alexandria, we hear from them with a smile and a kiss. Nor is this wonderful; we have taught them; they have heard such language from ourselves. They see our mistresses, our male objects of affection; every dining-room rings with impure songs; things shameful to be told are objects of sight. From such practices springs habit, and afterwards nature. The unfortunate children learn these vices before they know that they are vices; and hence, rendered effeminate and luxurious, they do not imbibe immorality from schools, but carry it themselves into schools.

But, it is said, one tutor will have more time for one pupil. First of all, however, nothing prevents that one pupil, whoever he may be, from being the same with him who is taught in the school. But if the two objects can not be united, I should still prefer the daylight of an honorable seminary to darkness and solitude; for every eminent teacher delights in a large concourse of pupils, and thinks himself worthy of a still more numerous auditory. But inferior teachers, from a consciousness of their inability, do not disdain to fasten on single pupils, and to discharge the duty as it were of *pedagogi*. But supposing that either interest, or friendship, or money, should secure to any parent a domestic tutor of the highest learning, and in every respect unrivaled, will he however spend the whole day on one pupil? Or can the application of any pupil be so constant as not to be sometimes wearied, like the sight of the eyes, by continued direction to one object, especially as study requires the far greater portion of time to be solitary. For the tutor does not stand by the pupil while he is writing, or learning by heart, or thinking; and when he is engaged in any of those exercises, the company of any person whatsoever is a hindrance to him. Nor does every kind of reading require at all times a prelector or interpreter; for when, if such were the case, would the knowledge of so many authors be gained? The time, therefore, during which the work as it were for the whole day may be laid out, is but short. Thus the instructions which are to be given to each, may reach to many. Most of them, indeed, are of such a nature that they may be communicated to all at once with the same exertion of the voice. I say nothing of the topics* and declamations of the rhetoricians, at which, certainly, whatever be the number of the audience, each will still carry off the whole. For the voice of the teacher is not like a meal, which will not

* *Partitionibus*. This word, says Spalding, has reference to the different topics and heads under which instruction was given by rhetoricians to their pupils.

suffice for more than a certain number, but like the sun, which diffuses the same portion of light and heat to all. If a grammarian, too, discourses on the art of speaking, solves questions, explains matters of history, or illustrates poems, as many as shall hear him will profit by his instructions. But, it may be said, number is an obstacle to correction and explanation.* Suppose that this be a disadvantage in a number, (for what, in general satisfies us in every respect?) we will soon compare that disadvantage with other advantages.

Yet I would not wish a boy to be sent to a place where he will be neglected. Nor should a good master encumber himself with a greater number of scholars than he can manage; and it is to be a chief object with us, also, that the master may be in every way our kind friend, and may have regard in his teaching, not so much to duty, as to affection. Thus we shall never be confounded with the multitude. Nor will any master, who is in the slightest degree tinctured with literature, fail particularly to cherish that pupil in whom he shall observe application and genius, even for his own honor. But even if great schools ought to be avoided (a position to which I can not assent, if numbers flock to a master on account of his merit,) the rule is not to be carried so far that schools should be avoided altogether. It is one thing to shun schools, another to choose from them.

If I have now refuted the objections which are made to schools, let me next state what opinions I myself entertain. First of all, let him who is to be an orator, and who must live amidst the greatest publicity, and in the full daylight of public affairs, accustom himself, from his boyhood, not to be abashed at the sight of men, nor pine in a solitary and as it were recluse way of life. The mind requires to be constantly excited and roused, while in such retirement it either languishes, and contracts rust, as it were, in the shade, or, on the other hand, becomes swollen with empty conceit, since he who compares himself to no one else, will necessarily attribute too much to his own powers. Besides, when his acquirements are to be displayed in public, he is blinded at the light of the sun, and stumbles at every new object, as having learned in solitude that which is to be done in public. I say nothing of friendships formed at school, which remain in full force even to old age, as if cemented with a certain religious obligation; for to have been initiated in the same studies is a not less sacred bond than to have been initiated in the same sacred rites. That sense, too, which is called common sense,† where shall a young man learn when he has separated himself from society, which is natural not to men only, but even to dumb animals? Add to this, that, at home, he can learn only what is taught himself. He will daily hear many things corrected; the idleness of a fellow student, when reproved, will be a warning to him; the industry of any one, when commended, will be a stimulus; emulation will be excited by praise; and he will think it a disgrace to yield to his equals in age, and an honor to surpass his seniors. All these matters excite the mind; and though ambition itself be a vice,‡ yet it is often the parent of virtues.

* *Prælectio*. By *prælectio* is to be understood that instruction which a master gives to boys in lessons which they have to prepare, and which can scarcely be given to two at once.

† Spalding observes that the expression *sensus communis*, in the signification of our "common sense," did not come into general use till after the time of Cicero. It is found, he observes, in Horace, Sat. i. 3, 36, and Phaedrus, l. 7. Much the same may be said of *ambitio*, which occurs a little below; it was not generally used for "ambition," in our sense of the word, till after Cicero's day, though it was certainly coming into use in that sense in his time.

‡ Ambition is not to be called a vice unless it be inordinate, or shown in a bad cause. I

I remember a practice that was observed by my masters, not without advantage. Having divided the boys into classes, they assigned them their order in speaking in conformity to the abilities of each; and thus each stood in the higher place to declaim according as he appeared to excel in proficiency. Judgments were pronounced on the performances; and great was the strife among us for distinction; but to take the lead of the class, was by far the greatest honor. Nor was sentence given on our merits only once; the thirtieth day brought the vanquished an opportunity of contending again. Thus he who was most successful, did not relax his efforts, while uneasiness incited the unsuccessful to retrieve his honor. I should be inclined to maintain, as far as I can form a judgment from what I conceive in my own mind, that this method furnished stronger incitements to the study of eloquence, than the exhortations of preceptors, the watchfulness of *pedagogi*, or the wishes of parents.

But as emulation is of use to those who have made some advancement in learning, so, to those who are but beginning and are still of tender age, to imitate their school-fellows is more pleasant than to imitate their master, for the very reason that it is more easy; for they who are learning the first rudiments will scarcely dare to exalt themselves to the hope of attaining that eloquence which they regard as the highest; they will rather fix on what is nearest to them, as vines attached to trees gain the top by taking hold of the lower branches first. This is an observation of such truth, that it is the care even of the master himself, when he has to instruct minds that are still unformed, not (if he prefer at least the useful to the showy) to overburden the weakness of his scholars, but to moderate his strength, and to let himself down to the capacity of the learner. For as narrow-necked vessels reject a great quantity of the liquid that is poured upon them, but are filled by that which flows or is poured into them by degrees, so it is for us to ascertain how much the minds of boys can receive, since what is too much for their grasp of intellect will not enter their minds, as not being sufficiently expanded to admit it. It is of advantage therefore for a boy to have school-fellows whom he may first imitate, and afterwards try to surpass. Thus will he gradually conceive hope of higher excellence.

To these observations I shall add, that masters themselves, when they have but one pupil at a time with them, can not feel the same degree of energy and spirit in addressing him, as when they are excited by a large number of hearers.

Eloquence depends in a great degree on the state of the mind, which must conceive images of objects, and transform itself, so to speak, to the nature of the things of which we discourse. Besides, the more noble and lofty a mind is, by the more powerful springs, as it were, is it moved, and accordingly is both strengthened by praise, and enlarged by effort, and is filled with joy at achieving something great. But a certain secret disdain is felt at lowering the power of eloquence, acquired by so much labor, to one auditor; and the teacher is ashamed to raise his style above the level of ordinary conversation. Let any one imagine, indeed, the air of a man haranguing, or the voice of one entreating, the gesture, the pronunciation, the agitation of mind and body, the exertion, and, to mention nothing else, the fatigue, while he has but one auditor, would not he seem to be affected with something like madness? There would

know not why Quintilian as well as Sallust (Cat. c. 13.) should have so decidedly called it a vice. A virtuous man may be ambitious as well as a vicious man.

be no eloquence in the world, if we were to speak only with one person at a time.

DISPOSITION AND ABILITIES OF THE PUPIL TO BE ASCERTAINED.

Let him that is skilled in teaching, ascertain first of all, when a boy is entrusted to him, his ability and disposition. The chief symptom of ability in children is memory, of which the excellence is two fold, to receive with ease and retain with fidelity. The next symptom is imitation; for that is an indication of a teachable disposition, but with this provision, that it express merely what it is taught, and not a person's manner or walk, for instance, or whatever may be remarkable for deformity. The boy who shall make it his aim to raise a laugh by his love of mimicry, will afford me no hope of good capacity; for he who is possessed of great talent will be well disposed; else I should think it not at all worse to be of a dull, than of a bad, disposition; but he who is honorably inclined will be very different from the stupid or idle. Such a pupil as I would have, will easily learn what is taught him, and will ask questions about some things, but will still rather follow than run on before. That precocious sort of talent scarcely ever comes to good fruit. Such are those who do little things easily, and, impelled by impudence, show at once all that they can accomplish in such matters. But they succeed only in what is ready to their hand; they string words together, uttering them with an intrepid countenance, not in the least discouraged by bashfulness; and do little, but do it readily. There is no real power behind, or any that rests on deeply fixed roots; but they are like seeds which have been scattered on the surface of the ground and shoot up prematurely, and like grass that resembles corn, and grows yellow, with empty ears, before the time of harvest. Their efforts give pleasure, as compared with their years; but their progress comes to a stand, and our wonder diminishes.

MANAGEMENT OF DIFFERENT PUPILS.

When a tutor has observed these indications of disposition and ability, let him next consider how the mind of his pupil is to be managed. Some boys are indolent, unless you stimulate them; some are indignant at being commanded; fear restrains some, and unnerves others; continued labor forms some; with others, hasty efforts succeed better. Let the boy be given to me, whom praise stimulates, whom honor delights, who weeps when he is unsuccessful. His powers must be cultivated under the influence of ambition; reproach will sting him to the quick; honor will incite him; and in such a boy I shall never be apprehensive of indifference.

RELAXATION AND PLAY.

Yet some relaxation is to be allowed to all; not only because there is nothing that can bear perpetual labor, (and even those things that are without sense and life are unbent by alternate rest, as it were, in order that they may preserve their vigor,) but because application to learning depends on the will, which can not be forced. Boys, accordingly, when reinvigorated and refreshed, bring more sprightliness to their learning, and a more determined spirit, which for the most part spurns compulsion. Nor will play in boys displease me; it is also a sign of vivacity; and I can not expect that he who is always dull and spiritless will be of an eager disposition in his studies, when he is indifferent even to that excitement which is natural to his age. There must however be bounds set to

relaxation, lest the refusal of it beget an aversion to study, or too much indulgence in it a habit of idleness. There are some kinds of amusement, too, not unserviceable for sharpening the wits of boys, as when they contend with each other by proposing all sorts of questions in turn. In their plays, also, their moral dispositions show themselves more plainly, supposing that there is no age so tender that it may not readily learn what is right and wrong; and the tender age may best be formed at a time when it is ignorant of dissimulation, and most willingly submits to instructors; for you may break, sooner than mend, that which has hardened into deformity. A child is as early as possible, therefore, to be admonished that he must do nothing too eagerly, nothing dishonestly, nothing without self-control; and we must always keep in mind the maxim of Virgil, *Adeo in teneris consuescere multum est*, "of so much importance is the acquirement of habit in the young."

CORPORAL PUNISHMENT.

But that boys should suffer corporal punishment, though it be a received custom, and Chrysippus makes no objection to it, I by no means approve; first, because it is a disgrace, and a punishment for slaves, and in reality (as will be evident if you imagine the age changed*) an affront; secondly, because, if a boy's disposition be so abject as not to be amended by reproof, he will be hardened, like the worst of slaves, even to stripes; and lastly, because, if one who regularly exacts his tasks be with him, there will not be the least need of any such chastisement. At present, the negligence of *pedagogi* seems to be made amends for in such a way that boys are not obliged to do what is right, but are punished whenever they have not done it. Besides, after you have coerced a boy with stripes, how will you treat him when he becomes a young man to whom such terror can not be held out, and by whom more difficult studies must be pursued? Add to these considerations, that many things unpleasant to be mentioned, and likely afterwards to cause shame, often happen to boys while being whipped, under the influence of pain or fear; and such shame enervates and depresses the mind, and makes them shun people's sight and feel a constant uneasiness. If, moreover, there has been too little care in choosing governors and tutors of reputable character, I am ashamed to say how scandalously unworthy men may abuse their privilege of punishing, and what opportunity also the terror of the unhappy children may sometimes afford to others.† I will not dwell upon this point; what is already understood is more than enough. It will be sufficient therefore to intimate, that no man should be allowed too much authority over an age so weak and so unable to resist ill-treatment.

STUDY OF LANGUAGE, OR GRAMMAR.

In regard to the boy who has attained facility in reading and writing, the next object is instruction from the grammarians.‡ Nor is it of importance whether I speak of the Greek or Latin grammarian, though I am inclined to think that the Greek should take the precedence. Both have the same method. This profession, then, distinguished as it is, most compendiously, into two parts, the art of *speaking correctly*, and the *illustration of the poets*, carries more beneath

* That is, if the punishment be inflicted on a grown person.—*Spalding*.

† Others besides the *pedagogi*.

‡ That is, the language masters, teachers of languages and literature, Latin or Greek, as is evident from what is afterwards said of them.

the surface than it shows on its front. For not only is the art of writing combined with that of speaking; but *correct reading* also precedes illustration, and with all these is joined the exercise of *judgment*, which the old grammarians, indeed, used with such severity, that they not only allowed themselves to distinguish certain verses with a particular mark of censure,* and to remove, as spurious, certain books which had been inscribed with false titles, from their sets, but even brought some authors within their canon, and excluded others altogether from classification. Nor is it sufficient to have read the poets only; every class of writers must be studied, not simply for matter, but for words, which often receive their authority from writers. Nor can grammar be complete without a knowledge of music;† since the grammarian has to speak of metre and rhythm; nor if he is ignorant of astronomy, can he understand the poets, who, to say nothing of other matters, so often allude to the rising and setting of the stars in marking the seasons; nor must he be unacquainted with philosophy, both on account of numbers of passages, in almost all poems, drawn from the most abstruse subtleties of physical investigation, and also on account of Empedocles among the Greeks, and Varro and Lucretius among the Latins, who have committed the precepts of philosophy to verse. The grammarian has also need of no small portion of eloquence, that he may speak aptly and fluently on each of those subjects which are here mentioned. Those therefore are by no means to be regarded who deride this science as trifling and empty, for unless it lays a sure foundation for the future orator, whatever superstructure you raise will fall; it is a science which is necessary to the young, pleasing to the old, and an agreeable companion in retirement, and which alone, of all departments of learning, has in it more service than show.

Let no man, therefore, look down on the elements of grammar as small matters; not because it requires great labor to distinguish consonants from vowels, and to divide them into the proper number of semivowels and mutes, but because, to those entering the recesses, as it were, of this temple, there will appear much subtlety on points, which may not only sharpen the wits of boys, but may exercise even the deepest erudition and knowledge.

READING.

Reading remains to be considered; in which how a boy may know when to take breath, where to divide a verse, where the sense is concluded, where it begins, when the voice is to be raised or lowered, what is to be uttered with any particular inflection of sound, or what is to be pronounced with greater slowness or rapidity, with greater animation or gentleness than other passages, can be taught only in practice. There is but one direction, therefore, which I have to give in this part of my work, namely, *that he may be able to do all this successfully, let him understand what he reads.*

Let his mode of reading, however, be, above all, manly, uniting gravity with a certain degree of sweetness; and let not his reading of the poets be like that of prose; for it is verse, and the poets say that they sing; yet let it not degenerate into sing-song, or be rendered effeminate with unnatural softness, as is now the practice among most readers; on which sort of reading we hear that

* The critics used two marks, the *asterisk* to signify that something was wanting; the *obelisk*, to indicate that something had been interpolated or was faulty.—Turnebus.

† So far, at least, as to acquire a correct ear for rhythm in prose, and for metre in poetry

Caius Cæsar, while he was still under age, observed happily to some one that was practicing it, "If you are singing, you sing badly; if you pretend to read, you nevertheless sing." Nor would I have *prosopopeia* pronounced, as some would wish them, after the manner of actors; though I think there should be a certain alteration of the voice by which they may be distinguished from those passages in which the poet speaks in his own person.

Other points demand much admonition to be given on them; and care is to be taken, above all things, that tender minds, which will imbibe deeply whatever has entered them while rude and ignorant of everything, may learn, not only what is eloquent, but, still more, what is morally good. It has accordingly been an excellent custom, that reading should commence with *Homer* and *Virgil*, although, to understand their merits, there is need of maturer judgment; but for the acquisition of judgment there is abundance of time; for they will not be read once only. In the meantime, let the mind of the pupil be exalted with the sublimity of the heroic verse, conceive ardor from the magnitude of the subjects, and be imbued with the noblest sentiments. The reading of *tragedies* is beneficial; the *lyric poets* nourish the mind, provided that you select from them, not merely authors, but portions of their works; for the Greeks are licentious in many of their writings, and I should be loath to interpret *Horace* in certain passages. As to *elegy*, at least that which treats of love, and *hendecasyllables*, and poems in which there are portions of *Sotadic verses*, (for concerning *Sotadic verses* themselves no precept need even be mentioned,) let them be altogether kept away, if it be possible; if not, let them at least be reserved for the greater strength of mature age. Of *comedy*, which may contribute very much to eloquence, as it extends to all sorts of characters and passions, I will state a little further on, in the proper place, the good which I think it may do to boys; when their morals are out of danger, it will be among the subjects to be chiefly read. It is of *Menander* that I speak, though I would not set aside other comic writers; for the Latin authors, too, will confer some benefit. But those writings should be the subjects of lectures for boys, which may best nourish the mind and enlarge the thinking powers; for reading other books, which relate merely to erudition, advanced life will afford sufficient time.

The old Latin authors, however, will be of great use, though most of them, indeed, were stronger in genius than in art. Above all they will supply a *copia verborum*; while in their tragedies may be found a weightiness of thought, and in their comedies elegance, and something as it were of *Atticism*. There will be seen in them, too, a more careful regard to regularity of structure than in most of the moderns, who have considered that the merit of every kind of composition lies solely in the thoughts. Purity, certainly, and, that I may so express myself, manliness, is to be gained from them; since we ourselves have fallen into all the vices of refinement, even in our manner of speaking. Let us, moreover, trust to the practice of the greatest orators, who have recourse to the poems of the ancients, as well for the support of their arguments, as for the adornment of their eloquence. For in *Cicero*, most of all, and frequently, also, in *Asinius*, and others nearest to his times, we see verses of *Ennius*, *Accius*, *Pacuvius*, *Lucilius*, *Terence*, *Cæcilius*, and other poets, introduced, with the best effect, not only for showing the learning of the speakers, but for giving pleasure to the hearers, whose ears find in the charms of poetry a relief from the want of elegance in forensic pleading. To this is to be added no mean advantage, as

the speakers confirm what they have stated by the sentiments of the poets, as by so many testimonies. But those first observations of mine have reference rather to boys, the latter to more advanced students, for the love of letters, and the benefit of reading, are bounded, not by the time spent at school, but by the extent of life.

In lecturing on the poets, the grammarian must attend also to minor points; so that, after taking a verse to pieces, he may require the parts of speech to be specified, and the peculiarities of the feet, which are necessary to be known, not merely for writing poetry, but even for prose composition; and that he may distinguish what words are barbarous, or misapplied, or used contrary to the rules of the language; not that the poets may thus be disparaged, (to whom, as they are commonly forced to obey the metre, so much indulgence is granted, that even solecisms are designated by other names in poetry, for we call them, as I have remarked, *metaplasms*, *schematisms*, and *schemata*, and give to necessity the praise of merit,) but that the tutor may instruct the pupil in figurative terms, and exercise his memory. It is likewise useful, among the first rudiments of instruction, to show in how many senses each word may be understood. About *glossemata*, too, that is, words not in general use, no small attention is requisite in the grammatical profession. With still greater care, however, let him teach all kinds of tropes, from which not only poetry, but even prose, receives the greatest ornament, as well as the two sorts of *schemata* or figures, called figures of speech and figures of thought. My observations on these figures, as well as those on tropes, I put off to that portion of my work in which I shall have to speak of the embellishments of composition. But let the tutor, above all things, impress upon the minds of his pupils what merit there is in a just disposition of parts, and a becoming treatment of subjects; what is well suited to each character; what is to be commended in the thoughts, and what in the words; where diffuseness is appropriate, and where contraction.

To these duties will be added explanations of historical points, which must be sufficiently minute, but not carried into superfluous disquisitions; for it will suffice to lecture on facts which are generally admitted, or which are at least related by eminent authors. To examine, indeed, what all writers, even the most contemptible, have ever related, is a proof either of extravagant laboriousness, or of useless ostentation, and chains and overloads the mind, which might give its attention to other things with more advantage.

COMPOSITION.

Let boys learn, then, to relate orally the fables of Æsop, which follow next after the nurse's stories, in plain language, not rising at all above mediocrity, and afterwards to express the same simplicity in writing. Let them learn, too, to take to pieces the verses of the poets, and then to express them in different words; and afterwards to represent them, somewhat boldly, in a paraphrase, in which it is allowable to abbreviate or embellish certain parts, provided that the sense of the poet be preserved. He who shall successfully perform this exercise, which is difficult even for accomplished professors, will be able to learn anything. Let *sentences*, also, and *chria*, and *ethologies*, be written by the learner, with the occasions of the sayings added according to the grammarians, because these depend upon reading. The nature of all these is similar, but

their form different; because a *sentence* is a general proposition; *ethology* is confined to certain persons. Of *chrie* several sorts are specified: one similar to a sentence, which is introduced with a simple statement, *He said*, or *He was accustomed to say*: another, which includes its subject in an answer: *He, being asked*, or, *when this remark was made to him, replied*; a third, not unlike the second, commences, *When some one had*, not said, but done something. Even in the acts of people some think that there is a *chria*, as, *Crates, having met with an ignorant boy, beat his tutor*: and there is another sort, almost like this, which, however, they do not venture to call by the same name, but term it a *xphiader*; as, *Milo, having been accustomed to carry the same calf every day, ended by carrying a bull*. In all these forms the declension is conducted through the same cases, and a reason may be given as well for acts as for sayings. Stories told by the poets should, I think, be treated by boys, not with a view to eloquence, but for the purpose of increasing their knowledge. Other exercises, of greater toil and ardor, the Latin teachers of rhetoric, by abandoning them, have rendered the necessary work of teachers of grammar. The Greek rhetoricians have better understood the weight and measure of their duties.

MUSIC.

For myself, I could be quite satisfied with the judgment of the ancients; for who is ignorant that music (to speak of that science first) enjoyed, in the days of antiquity, so much, not only of cultivation, but of reverence, that those who were musicians were deemed also prophets and sages, as, not to mention others, *Orpheus* and *Linus*, both of whom are transmitted to the memory of posterity as having been descended from the gods, and the one, because he soothed the rude and barbarous minds of men by the wonderful effect of his strains, as having drawn after him not only wild beasts, but even rocks and woods. *Timagenes* declares that music was the most ancient of sciences connected with literature; an opinion to which the most celebrated poets give their support, according to whom the praises of gods and heroes used to be sung to the lyre at royal banquets. Does not Virgil's *Iopas*, too sing *errantem lunam solisque labores*, "the wandering moon, and labors of the sun;" the illustrious poet thus plainly asserting that music is united with the knowledge of divine things? If this position be granted, music will be necessary also for the orator; for, as I observed, this part of learning, which, after being neglected by orators, has been taken up by the philosophers, was a portion of our business, and, without the knowledge of such subjects, there can be no perfect eloquence.

Nor can any one doubt that men eminently renowned for wisdom have been cultivators of music, when *Pythagoras*, and those who followed him, spread abroad the notion, which they doubtless received from antiquity, that the world itself was constructed in conformity with the laws of music, which the lyre afterwards imitated. Nor were they content, moreover, with that concord of discordant elements, which they call *ἁρμονία*, "harmony," but attributed even sound to the celestial motions; for *Plato*, not only in certain other passages, but especially in his *Timæus*, can not even be understood except by those who have thoroughly imbibed the principles of this part of learning. What shall I say, too, of the philosophers in general, whose founder, *Socrates* himself, was not ashamed, even in his old age, to learn to play on the lyre? It is related that the greatest generals used to play on the harp and flute, and that the troops of

the Lacedæmonians were excited with musical notes. What other effect, indeed, do horns and trumpets produce in our legions, since the louder is the concert of their sounds, so much greater is the glory of the Romans than that of other nations in war? It was not without reason, therefore, that Plato thought music necessary for a man who would be qualified for engaging in government, and whom the Greeks call *politikos*. Even the chiefs of that sect which appears to some extremely austere, and to others extremely harsh, were inclined to think that some of the wise might bestow a portion of their attention on this study. Lycurgus, also, the maker of most severe laws for the Lacedæmonians, approved of the study of music. Nature herself, indeed, seems to have given music to us as a benefit, to enable us to endure labors with greater facility; for musical sounds cheer even the rower; and it is not only in those works, in which the efforts of many, while some pleasing voice leads them, conspire together, that music is of avail, but the toil even of people at work by themselves finds itself soothed by song, however rude.* I appear, however, to be making an eulogy on this finest of arts, rather than connecting it with the orator. Let us pass lightly over the fact, then, that grammar and music were once united; since Archytas and Aristoxenus, indeed, thought grammar comprehended under music;† and that they themselves were teachers of both arts, not only Sophron shows, (a writer, it is true, only of mimes, but one whom Plato so highly valued, that he is said to have had his books under his head when he was dying,) but also Eupolis, whose Prodamos teaches both music and grammar, and Maricas, that is to say, Hyperbolus, confesses that *he knows nothing of music but letters*. Aristophanes, also, in more than one of his comedies, shows that boys were accustomed to be thus instructed in times of old; and, in the Hypobolimeus of Menander, an old man, laying before a father, who is claiming a son from him, an account as it were of the expenses that he had bestowed upon his education, says, that *he has paid a great deal to musicians and geometers*. Hence too it was customary at banquets that the lyre should be handed round after the meal: and Themistocles, on confessing that he knew not how to play, "was accounted," to use the words of Cicero, "but imperfectly educated." Among the Romans, likewise, it was usual to introduce lyres and flutes at feasts. The verses of the Salli also have their tune; and these customs, as they were all established by Numa, prove that not even by those, who seem to have been rude and given to war, was the cultivation of music neglected, as far as that age admitted it. It

* Verse sweetens toil, however rude the sound;
All at her work the village maiden sings;
Nor, while she turns the giddy wheel around,
Revolves the sad vicissitudes of things.

Repeated, from a forgotten volume of poems, by Johnson to Boswell.

"Croonin' to a body's sel',"

said Burns,

"Does weel enough."

† The ancients regarded chiefly the origin of the word *musicæ* (from *μουσική*), bestowing it on whatever contributed to the cultivation of the mind; as *gymnasticæ* comprehended all that formed the exercise of the body. These departments of instruction for youth are, however, frequently mentioned, as by Xenophon de Republ. Lacedæm., γυμναστικά, μουσικά, καὶ τὰ ἐν καλαιετείᾳ.—Spalding.

‡ Music being understood in the sense given to it in the preceding note, grammar would be a portion of it.

passed at length, indeed, into a proverb among the Gauls, that *the uneducated had no commerce either with the Muses or the Graces.*

But let us consider what peculiar advantage he who is to be an orator may expect from music. Music has two kinds of measures, the one in the *sounds of the voice*, the other in the *motions of the body*; for in both a certain due regulation is required. Aristoxenus the musician divides all that belongs to the voice into *ῥυθμός*, "rhythm," and *μέλος ἑρμῆρον*, "melody in measure;" of which the one consists in *modulation*, the other in *singing* and tunes. Are not all these qualifications, then, necessary to the orator, the one of which relates to gesture, the second to the collocation of words, and the third to the inflections of the voice, which in speaking are extremely numerous? Such is undoubtedly the case; unless we suppose, perchance, that a regular structure and smooth combination of words is requisite only in poems and songs, and is superfluous in making a speech; or that composition and modulation are not to be varied in speaking, as in music, according to the nature of the subject. Music, however, by means of the tone and modulation of the voice, expresses sublime thoughts with grandeur, pleasant ones with sweetness, and ordinary ones with calmness, and sympathizes in its whole art with the feelings attendant on what is expressed. In oratory, accordingly, the raising, lowering, or other inflection of the voice, tends to move the feelings of the hearers; and we try to excite the indignation of the judges in one modulation of phrase and voice, (that I may again use the same term,) and their pity in another; for we see that minds are affected in different ways even by musical instruments, though no words can not be uttered by them.

A graceful and becoming motion of the body, also, which the Greeks call *εὐστροφία*, is necessary, and can not be sought from any other art than music; a qualification on which no small part of oratory depends, and for treating on which a peculiar portion of our work is set apart. If an orator shall pay extreme attention to his voice, what is so properly the business of music? But neither is this department of my work to be anticipated; so that we must confine ourselves, in the mean time, to the single example of Caius Gracchus, the most eminent orator of his time, behind whom, when he spoke in public, a musician used to stand, and to give, with a pitch-pipe, which the Greeks call *κράσιον*, the tones in which his voice was to be exerted. To this he attended even in his most turbulent harangues, both when he frightened the patricians, and after he began to fear them.

For the sake of the less learned, and those, as they say, "of a duller muse," I would wish to remove all doubt of the utility of music. They will allow, assuredly, that the poets should be read by him who would be an orator; but are they, then, to be read without a knowledge of music? If any one is so blind of intellect, however, as to hesitate about the reading of other poets, he will doubtless admit that those should be read who have written poems for the lyre. On these matters I should have to enlarge more fully, if I recommended this as a new study; but since it has been perpetuated from the most ancient times, even from those of Chiron and Achilles to our own, (among all, at least, who have not been averse to a regular course of mental discipline,) I must not proceed to make the point doubtful by anxiety to defend it. Though I consider it sufficiently apparent, however, from the very examples which I have now given, what music pleases me, and to what extent, yet I think that I ought to

declare more expressly, that that sort of music is not recommended by me, which, prevailing at present in the theatres, and being of an effeminate character, languishing with lascivious notes, has in a great degree destroyed whatever manliness was left among us; but those strains in which the praises of heroes were sung, and which heroes themselves sung; not the sounds of psalteries and languishing lutes,* which ought to be shunned even by modest females, but the knowledge of the principles of the art, which is of the highest efficacy in exciting and allaying the passions. For Pythagoras, as we have heard, calmed a party of young men, when urged by their passions to offer violence to a respectable family, by requesting the female musician, who was playing to them, to change her strain to a spondaic measure; and Chrysippus assigns a peculiar tune for the lullaby of nurses, which is used with children. There is also a subject for declamation in the schools, not unartfully invented, in which it is supposed that a flute-player, who had played a Phrygian tune to a priest while he was sacrificing, is accused, after the priest has been driven to madness, and has thrown himself over a precipice, of having been the cause of his death; and if such causes have to be pleaded by an orator, and can not be pleaded without a knowledge of music, how can even the most prejudiced forbear to admit that this art is necessary to our profession?

GEOMETRY.

As to *geometry*, people admit that some attention to it is of advantage in tender years; for they allow that the thinking powers are excited, and the intellect sharpened by it, and that a quickness of perception is thence produced; but they fancy that it is not, like other sciences, profitable after it has been acquired, but only whilst it is being studied. Such is the common opinion respecting it. But it is not without reason that the greatest men have bestowed extreme attention on this science; for as geometry is divided between numbers and figures, the knowledge of *numbers*, assuredly, is necessary not only to an orator, but to every one who has been initiated even in the rudiments of learning. In pleading causes, it is very often in request; when the speaker, if he hesitates, I do not say about the amount of a calculation, but if he even betray, by any uncertain or awkward movement of his fingers, a want of confidence in his calculations, is thought to be but imperfectly accomplished in his art. The knowledge of *linear figures*, too, is frequently required in causes; for law-suits occur concerning boundaries and measures. But geometry has a still greater connection with the art of oratory.

Order, in the first place, is necessary in geometry; and is it not also necessary in eloquence? Geometry proves what follows from what precedes, what is unknown from what is known; and do we not draw similar conclusions in speaking? Does not the well known mode of deduction from a number of proposed questions consist almost wholly in syllogisms? Accordingly you may find more persons to say that geometry is allied to logic, than that it is allied to rhetoric. But even an orator, though rarely, will yet at times prove logically, for he will use syllogisms if his subject shall require them, and will of necessity

* *Psalteria—spadicæ*. He means, if I am not mistaken, instruments of an extremely effeminate character, rendered so by the extraordinary number of strings.—*Spalding*. Of the *spadis* nothing is known but that it was a stringed instrument, named, probably, from the wood (*spadis*, a palm-branch) of which it was made, Pollux iv. 59. Aul. Gell. iii. 2.

use the enthymem, which is a rhetorical syllogism. Besides, of all proofs, the strongest are what are called geometrical demonstrations; and what does oratory make its object more indisputably than proof?

Geometry often, moreover, by demonstration, proves what is apparently true to be false. This is also done with respect to numbers, by means of certain figures which they call *ψευδὲς παρίαι**, and at which we were accustomed to play when we were boys. But there are other questions of a higher nature. For who would not believe the asserter of the following proposition: "Of whatever places the boundary lines measure the same length, of those places the areas also, which are contained by those lines, must necessarily be equal?" But this proposition is fallacious; for it makes a vast difference what figure the boundary lines may form; and historians, who have thought that the dimensions of islands are sufficiently indicated by the space traversed in sailing round them, have been justly censured by geometers. For the nearer to perfection any figure is, the greater is its capacity; and if the boundary line, accordingly, shall form a circle, which of all plane figures is the most perfect, it will embrace a larger area than if it shall form a square of equal circumference. Squares, again, contain more than triangles of equal circuit, and triangles themselves contain more when their sides are equal than when they are unequal. Some other examples may perhaps be too obscure; let us take an instance most easy of comprehension even to the ignorant. There is scarcely any man who does not know that the dimensions of an acre extend two hundred and forty feet in length, and the half of that number in breadth; and what its circumference is, and how much ground it contains it is easy to calculate. A figure of a hundred and eighty feet on each side, however, has the same periphery, but a much larger area contained within its four sides. If any one thinks it too much trouble to make the calculation, he may learn the same truth by means of smaller numbers. Ten feet, on each side of a square, will give forty for the circumference, and a hundred for the area; but if there were fifteen feet on each side, and five at each end, they would, with the same circuit, deduct a fourth part from the area inclosed. If, again, nineteen feet be extended in parallel lines, only one foot apart, they will contain no more squares than those along which the parallels shall be drawn; and yet the periphery will be of the same extent as that which incloses a hundred. Thus the further you depart from the form of a square, the greater will be the loss to the area. It may therefore happen even that a smaller area may be inclosed by a greater periphery than a larger one.† Such is the case in plane figures; for on hills, and in valleys, it is evident even to the untaught that there is more ground than sky.‡

Need I add that geometry raises itself still higher, so as even to ascertain the system of the world? When it demonstrates, by calculations, the regular and appointed movements of the celestial bodies, we learn that, in that system, there is nothing unordained or fortuitous; a branch of knowledge which may be sometimes of use to the orator. When Pericles freed the Athenians from fear, at the time that they were alarmed by an eclipse of the sun, by explaining to them the causes of the phenomenon; or when Sulpicius Gallus, in the army

* Of these no example is to be found.

† Thus a right-angled triangle, whose base is 8 feet, perpendicular 6 feet, and hypotenuse 10 feet, will contain 24 square feet within a periphery of 24 feet; while a parallelogram 12 feet long, and 1 foot broad, will contain only 12 square feet within a periphery of 26 feet.

‡ Supposing the sky to be a flat surface.

of Paulus Æmilius, made a speech on an eclipse of the moon, that the minds of the soldiers might not be terrified as by a supernatural prodigy, do they not, respectively, appear to have discharged the duty of an orator? Had Nicias been possessed of such knowledge in Sicily, he would not have been confounded with similar terror, and have given over to destruction the finest of the Athenian armies; as Dion, we know, when he went to overthrow the tyranny of Dionysius, was not deterred by a similar phenomenon. Though the utility of geometry in war, however, be put out of the question, though we do not dwell upon the fact that Archimedes alone protracted the siege of Syracuse to a great extent, it is sufficient, assuredly, to establish what I assert, that numbers of questions, which it is difficult to solve by any other method, as those about the mode of dividing, about division to infinity, and about the rate of progressions, are accustomed to be solved by those geometrical demonstrations; so that if an orator has to speak (as the next book will show) on all subjects, no man, assuredly, can become a perfect orator without a knowledge of geometry.

CHOICE OF A TEACHER.*

Of these professors the morals must first be ascertained; a point of which I proceed to treat in this part of my work, not because I do not think that the same examination is to be made, and with the utmost care, in regard also to other teachers, (as indeed I have shown in the preceding book,) but because the very age of the pupils makes attention to the matter still more necessary. For boys are consigned to these professors when almost grown up, and continue their studies under them even after they are become men; and greater care must in consequence be adopted with regard to them, in order that the purity of the master may secure their more tender years from corruption, and his authority deter their bolder age from licentiousness. Nor is it enough that he give, in himself, an example of the strictest morality, unless he regulate, also, by severity of discipline, the conduct of those who come to receive his instructions.

Let him adopt, then, above all things, the feelings of a parent towards his pupils, and consider that he succeeds to the place of those by whom the children were intrusted to him. Let him neither have vices in himself, nor tolerate them in others. Let his austerity not be stern, nor his affability too easy, lest dislike arise from the one, or contempt from the other. Let him discourse frequently on what is honorable and good, for the oftener he admonishes, the more seldom will he have to chastise. Let him not be of an angry temper, and yet not a conniver at what ought to be corrected. Let him be plain in his mode of teaching, and patient of labor, but rather diligent in exacting tasks than fond of giving them of excessive length. Let him reply readily to those who put questions to him, and question of his own accord those who do not. In commending the exercises of his pupils, let him be neither niggardly nor lavish; for the one quality begets dislike of labor, and the other self-complacency. In amending what requires correction, let him not be harsh, and, least of all, not reproachful; for that very circumstance, that some tutors blame as if they hated, deters many young men from their proposed course of study. Let him

* The following suggestions have reference to the choice of a teacher of rhetoric for boys who are to be trained for oratory—but the general principles are applicable to the choice of teachers generally.—Ed.

every day say something, and even much, which, when the pupils hear, they may carry away with them, for though he may point out to them, in their course of reading, plenty of examples for their imitation, yet *the living voice*, as it is called, feeds the mind more nutritiously, and especially the voice of the teacher, whom his pupils, if they are but rightly instructed, both love and reverence. How much more readily we imitate those whom we like, can scarcely be expressed.

The liberty of standing up and showing exultation, in giving applause, as is done under most teachers, is by no means to be allowed to boys; for the approbation even of young men, when they listen to others, ought to be but temperate. Hence it will result that the pupil will depend on the judgment of the master, and will think that he has expressed properly whatever shall have been approved by him. But that most mischievous *politeness*, as it is now termed, which is shown by students in their praise of each other's compositions, whatever be their merits, is not only unbecoming and theatrical,* and foreign to strictly regulated schools, but even a most destructive enemy to study, for care and toil may well appear superfluous, when praise is ready for whatever the pupils have produced. Those therefore who listen, as well as he who speaks, ought to watch the countenance of the master, for they will thus discern what is to be approved and what to be condemned; and thus power will be gained from composition, and judgment from being heard. But now, eager and ready, they not only start up at every period, but dart forward, and cry out with indecorous transports. The compliment is repaid in kind, and upon such applause depends the fortune of a declamation; and hence results vanity and self-conceit, inasmuch that, being elated with the tumultuous approbation of their class-fellows, they are inclined, if they receive but little praise from the master, to form an ill opinion of him. But let masters, also, desire to be heard themselves with attention and modesty; for the master ought not to speak to suit the taste of his pupils, but the pupils to suit that of the master. If possible, moreover, his attention should be directed to observe what each pupil commends in his speeches, and for what reason; and he may then rejoice that what he says will give pleasure, not more on his own account than on that of his pupils who judge with correctness.

That mere boys should sit mixed with young men, I do not approve; for though such a man as ought to preside over their studies and conduct, may keep even the eldest of his pupils under control, yet the more tender ought to be separate from the more mature, and they should all be kept free, not merely from the guilt of licentiousness, but even from the suspicion of it. This point I thought proper briefly to notice; that the master and his school should be clear of gross vice, I do not suppose it necessary to intimate. And if there is any father who would not shrink from flagrant vice in choosing a tutor for his son, let him be assured that all other rules, which I am endeavoring to lay down for the benefit of youth, are, when this consideration is disregarded, useless to him.

Nor is the opinion of those to be passed in silence, who, even when they think boys fit for the professor of rhetoric, imagine that he is not at once to be consigned to the most eminent, but detain him for some time under inferior teachers, with the notion that moderate ability in a master is not only better

* Such as is given by spectators in the theatre.

adapted for beginning instruction in art, but easier for comprehension and imitation, as well as less disdainful of undertaking the trouble of the elements. On this head I think no long labor necessary to show how much better it is to be imbued with the best instructions, and how much difficulty is attendant on eradicating faults which have once gained ground, as double duty falls on succeeding masters, and the task indeed of unteaching is heavier and more important than that of teaching at first. Accordingly they say that Timotheus, a famous instructor in playing the flute, was accustomed to ask as much more pay from those whom another had taught as from those who presented themselves to him in a state of ignorance. The mistakes committed in the matter, however, are two; one, that people think inferior teachers sufficient for a time, and, from having an easily satisfied appetite, are content with their instructions; (such supineness, though deserving of reprehension, would yet be in some degree endurable, if teachers of that class taught only worse, and not less;) the other, which is even more common, that people imagine that those who have attained eminent qualifications for speaking will not descend to inferior matters, and that this is sometimes the case because they disdain to bestow attention on minuter points, and sometimes because they can not give instruction in them. For my part, I do not consider him, who is unwilling to teach little things, in the rank of preceptors; but I argue that the ablest teachers can teach little things best, if they will; first, because it is likely that he who excels others in eloquence, has gained the most accurate knowledge of the means by which men attain eloquence; secondly, because method, which, with the best qualified instructors, is always plainest, is of great efficacy in teaching; and lastly, because no man rises to such a height in greater things that lesser fade entirely from his view. Unless indeed we believe that though Phidias made a Jupiter well, another might have wrought, in better style than he, the accessories to the decoration of the work; or that an orator may not know how to speak; or that an eminent physician may be unable to cure trifling ailments.

Is there not then, it may be asked, a certain height of eloquence too elevated for the immaturity of boyhood to comprehend it? I readily confess that there is; but the eloquent professor must also be a man of sense, not ignorant of teaching, and lowering himself to the capacity of the learner; as any fast walker, if he should happen to walk with a child, would give him his hand, relax his pace, and not go on quicker than his companion could follow. What shall be said, too, if it generally happens that instructions given by the most learned are far more easy to be understood, and more perspicuous than those of others? For perspicuity is the chief virtue of eloquence, and the less ability a man has, the more he tries to raise and swell himself out,* as those of short stature exalt themselves on tip-toe,† and the weak use most threats. As to those whose style is inflated, displaying a vitiated taste, and who are fond of sounding words, or faulty from any other mode of vicious affectation, I am convinced that they labor under the fault, not of strength, but of weakness, as bodies are swollen, not with health, but with disease, and as men who have erred from the straight road generally make stoppages. Accordingly, the less able a teacher is, the more obscure will he be.

* In allusion, perhaps, to the fable of the frog and the ox, Phedr., i. 24.

† *Statura breves in digitos eriguntur.* An illustration borrowed by Johnson in his "*Life of Gray*," who, he says, is "tall by walking on tip-toe."

It has not escaped my memory, that I said in the preceding book, (when I observed that education in schools was preferable to that at home,) that pupils commencing their studies, or but little advanced in them, devote themselves more readily to imitate their school-fellows than their master, such imitation being more easy to them. This remark may be understood by some in such a sense, that the opinion which I now advocate may appear inconsistent with that which I advanced before. But such inconsistency will be far from me; for what I then said is the very best of reasons why a boy should be consigned to the best possible instructor, because even the pupils under him, being better taught than those under inferior masters, will either speak in such a manner as it may not be objectionable to imitate, or, if they commit any faults, will be immediately corrected, whereas the less learned teacher will perhaps praise even what is wrong, and cause it, by his judgment, to recommend itself to those who listen to it. Let a master therefore be excellent as well in eloquence as in morals; one who, like Homer's "*Phenix*,"* may teach his pupil at once to speak and to act.

STUDIES ADAPTED TO PECULIARITIES OF PUPILS.

It is generally, and not without reason, regarded as an excellent quality in a master to observe accurately the differences of ability in those whom he has undertaken to instruct, and to ascertain in what direction the nature of each particularly inclines him; for there is in talent an incredible variety; nor are the forms of the mind fewer than those of the body. This may be understood even from orators themselves, who differ so much from each other in their style of speaking, that no one is like another, though most of them have set themselves to imitate those whom they admired. It has also been thought advantageous by most teachers to instruct each pupil in such a manner as to cherish by learning the good qualities inherited from nature, so that the powers may be assisted in their progress towards the object to which they chiefly direct themselves. As a master of palastric exercises, when he enters a gymnasium full of boys, is able, after trying their strength and comprehension in every possible way, to decide for what kind of exercise each ought to be trained; so a teacher of eloquence, they say, when he has clearly observed which boy's genius delights most in a concise and polished manner of speaking, and which in a spirited, or grave, or smooth, or rough, or brilliant, or elegant one, will so accommodate his instructions to each, that he will be advanced in that department in which he shows most ability; because nature attains far greater power when seconded by culture; and he that is led contrary to nature, can not make due progress in the studies for which he is unfit, and makes those talents, for the exercise of which he seemed born, weaker by neglecting to cultivate them.

This opinion seems to me (for to him that follows reason there is free exercise of judgment even in opposition to received persuasions) just only in part. To distinguish peculiarities of talent is absolutely necessary; and to make choice of particular studies to suit them, is what no man would discountenance. For one youth will be fitter for the study of history than another; one will be qualified for writing poetry, another for the study of law, and some perhaps fit only to be sent into the fields. The teacher of rhetoric will decide in accord-

* *Iliad*, ix. 432.

ance with these peculiarities, just as the master of the *palaestra* will make one of his pupils a runner, another a boxer, another a wrestler, or fit him for any of the exercises that are practiced at the sacred games.

TEACHERS SHOULD BE REGARDED BY THEIR PUPILS AS PARENTS.

Having spoken thus fully concerning the duties of teachers, I give pupils, for the present, only this one admonition, that they are to love their tutors not less than their studies, and to regard them as parents, not indeed of their bodies, but of their minds. Such affection contributes greatly to improvement; for pupils, under its influence, will not only listen with pleasure, but will believe what is taught them, and will desire to resemble their instructors. They will come together, in assembling for school, with pleasure and cheerfulness; they will not be angry when corrected, and will be delighted when praised; and they will strive, by their devotion to study, to become as dear as possible to the master. For as it is the duty of preceptors to teach, so it is that of pupils to show themselves teachable; neither of these duties, else, will be of avail without the other. And as the generation of man is effected by both parents, and as you will in vain scatter seed, unless the furrowed ground, previously softened, cherish it, so neither can eloquence come to its growth unless by mutual agreement between him who communicates and him who receives.

BOYS CAPABLE OF MUCH STUDY, IF THE SUBJECTS ARE VARIED.

The hours of the day may be divided among different kinds of study, especially as variety itself refreshes and recruits the mind, while, on the contrary, nothing is more annoying than to continue at one uniform labor. Accordingly writing is relieved by reading, and the tedium of reading itself is relieved by changes of subject. However many things we may have done, we are yet to a certain degree fresh for that which we are going to begin. Who, on the contrary, would not be stupified, if he were to listen to the same teacher of any art, whatever it might be, through the whole day? But by change a person will be recruited; as is the case with respect to food, by varieties of which the stomach is re-invigorated, and is fed with several sorts less unsatisfactorily than with one. Or let those objectors tell me what other mode there is of learning. Ought we to attend to the teacher of grammar only, and then to the teacher of geometry only, and cease to think, during the second course, of what we learned in the first? Should we then transfer ourselves to the musician, our previous studies being still allowed to escape us? Or while we are studying Latin, ought we to pay no attention to Greek?

The temper of boys is better able to bear labor than that of men; for, as neither the falls of children, with which they are so often thrown on the ground, nor their crawling on hands and knees, nor, soon after, constant play, and running all day hither and thither, inconvenience their bodies so much as those of adults, because they are of little weight, and no burden to themselves, so their minds likewise, I conceive, suffer less from fatigue, because they exert themselves with less effort, and do not apply to study by putting any force upon themselves, but merely yield themselves to others to be formed.

IX. ELEMENTARY EDUCATION IN IRELAND.

HISTORICAL SKETCH.

THE checkered experience of Ireland,—its dark and its bright sides,—forms one of the most instructive chapters in the history of popular education. It commences, according to the testimony of the earliest chroniclers, with institutions of learning, not only of earlier origin, but of higher reputation, than any in England or Scotland,—institutions which were resorted to by English youth for instruction, who brought back the use of letters to their ignorant countrymen. According to Bede and William of Malmesbury, this resort commenced even so early as the seventh century, and these youth were not only taught, but maintained without service or reward. The great college of Mayo was called "the Mayo of the Saxons," because it was dedicated to the exclusive use of English students, who at one time amounted to no fewer than 2000. Bayle, on the authority of the historian of the time, pronounces Ireland "the most civilized country in Europe,* the nursery of the sciences" from the eighth to the thirteenth century, and her own writers are proud of pointing to the monastery of Lindisfarne, the college of Lismore, and the forty literary institutions of Borrisdole, as so many illustrative evidences of the early intellectual activity and literary munificence of the nation. But Ireland not only abounded with higher institutions, but there were connected with monasteries and churches, as early as the thirteenth century, teachers expressly set apart "for teaching poor scholars gratis." When the country was overrun by foreign armies, and torn by civil discord, and governed by new ecclesiastical authorities, set up by the conquerors, and not in harmony with the religion of the people, a change certainly passed over the face of things, and there follows a period of darkness and educational destitution, for which we find no relief in turning to the history of English legislation in behalf of Ireland. Indeed there is not a darker page in the whole history of religious intolerance than that which records the action and legislation of England for two centuries, toward this ill-fated country, in this one particular. Even the statute of Henry VIII., which seems to be framed to carry out a system of elementary education already existing before the new ecclesiastical authorities were imposed upon the country, was intended mainly to convert Irishmen into Englishmen. By that

* These facts are stated on the authority of a speech of Hon. Thomas Wyse, in the House of Commons, in 1835.

statute, every archbishop and bishop was bound to see that every clergyman took an oath "to keep, or cause to be kept, a school to learn English, if any children of his parish came to him to learn the same, taking for the keeping of the said school such convenient stipend or salary as in the said land is accustomed to be taken;" and both higher and lower authorities, archbishops and their beneficed clergymen, are subjected to a fine for neglect of duty. The fatal error in this and in all subsequent legislation and associated effort for education in Ireland, until the last twenty years, was its want of nationality; the schools were English and Protestant, and the people for whom they were established were Irish and Catholics, and every effort, by legislation or education, to convert Irishmen into Englishmen, and Catholics into Protestants, has not only failed, but only helped to sink the poor into ignorance, poverty and barbarism, and bind both rich and poor more closely to their faith and their country. Every system of education, to be successful, must be adapted to the institutions, habits and convictions of the people. If this principle had been regarded in the statute of Henry VIII, Ireland, which had the same, if not a better foundation in previous habits and existing institutions, than either Scotland or Germany, would have had a system of parochial schools recognized and enforced by the state, but supervised by the clergy. This was the secret of the success of Luther and Knox. What they did was in harmony with the convictions and habits of the people. So strangely was this truth forgotten in Ireland, that until the beginning of this century, Catholics, who constituted four-fifths of the population, were not only not permitted to endow, conduct, or teach schools, but Catholic parents even were not permitted to educate their own children abroad, and it was made an offense, punished by transportation, (and if the party returned it was made high treason,) in a Catholic, to act as a schoolmaster, or assistant to a schoolmaster, or even as a tutor in a private family. Such a law as that in operation for a century, coupled with legal disabilities in every form, and with a system of legislation framed to benefit England at the expense of Ireland, would sink any people into pauperism and barbarism, especially when much, if not most, of the land itself was held in fee by foreigners, or Protestants, and the products of the soil and labor were expended on swarms of church dignitaries, state officials, and absentee landlords. But even when these restrictions on freedom of education and teaching were removed in 1785, the grants of money by the Irish and Imperial Parliaments, down to 1825, were expended in supporting schools exclusively Protestant. Upward of \$7,000,000 were expended on the Protestant Charter Schools, which were supported by a society which originated in 1733, on the alleged ground "that Protestant English schools, in certain counties inhabited by Papists, were absolutely necessary for their conversion." By a by-law of this society, the advantages of the institutions were limited exclusively to the children of Catholic parents. On the schools of the "Society for Discountenancing Vice," which originated in 1792, and which was soon converted into an agency

of proselytism, the government expended, between 1800 and 1827, more than a half million of dollars. In 1814, the schools of the "Kildare Place Society," began to receive grants from the Parliament, which amounted in some years to £50,000, and on an average to \$25,000, and in the aggregate to near \$2,000,000; and yet the regulations of the Society, although more liberal than any which preceded it, were so applied as practically to exclude the children of Catholics, who constituted, in 1830, 6,423,000, out of a population of 7,932,000.

In 1806 commissioners were appointed by Parliament to inquire into the state of all schools, on public or charitable foundations, in Ireland; who made fourteen reports. In their last report, in 1812, they recommend the appointment of a board of commissioners, to receive and dispose of all parliamentary grants, to establish schools, to prepare a sufficient number of well-qualified masters, to prescribe the course and mode of education, to select text-books, and generally to administer a system of national education for Ireland. To obviate the difficulty in the way of religious instruction, the commissioners express a confident conviction that, in the selection of text-books, "it will be found practicable to introduce not only a number of books in which moral principles should be inculcated in such a manner as is likely to make deep and lasting impressions on the youthful mind, but also ample extracts from the Sacred Scriptures themselves, an early acquaintance with which it deems of the utmost importance, and indeed indispensable in forming the mind to just notions of duty and sound principles of conduct; and that the study of such a volume of extracts from the Sacred Writings would form the best preparation for that more particular religious instruction which it would be the duty and inclination of their several ministers of religion to give at proper times, and in other places, to the children of their respective congregations."

In 1824, another commission was instituted to inquire into the nature and extent of the instruction afforded by different schools in Ireland, supported in whole or in part from the public funds, and to report on the best means of extending to all classes of the people the benefit of education. This commission submitted nine reports, concurring generally in the recommendations of the committee of 1805.

In 1828, the reports of the commissioners were referred to a committee of the House of Commons, who made a report in the same year, in which they state their object to be "to discover a mode in which the combined education of Protestant and Catholic might be carried on, resting upon religious instruction, but free from the suspicion of proselytism." The committee therefore recommend the appointment of a board of education, with powers substantially the same as possessed by the former commissioners. The following resolution presents their views on the matter of religious education

"That it is the opinion of this Committee, that for the purpose of carrying into effect the combined literary and the separate religious education of the scholars, the course of study for four fixed days in the week should be exclusively moral and literary; and that, of the two remaining days, the one to be appropriated

solely to the separate religious instruction of the Protestant children, the other to the separate religious instruction of the Roman Catholic children. In each case no literary instruction to be given, or interference allowed on the part of the teachers, but the whole of the separate religious instruction to be given under the superintendence of the clergy of the respective communions. That copies of the New Testament, and of such other religious books as may be printed in the manner hereinafter mentioned, should be provided for the use of the children, to be read in schools, at such times of separate instruction only, and under the direction of the attending clergyman:—the established version for the use of the Protestant scholars, and the version published with the approval of the Roman Catholic bishops for the children of their communion.”

In 1830, the subject was again considered by a select committee of the House on the state of the poor in Ireland, and the hope expressed that no further time would be lost in giving to Ireland the benefit of the expensive and protracted inquiries of the commissioners of 1805 and 1825, and of the committee of 1828. In September, 1831, Mr. Wyse, author of the able volume entitled “Educational Reform,” a member of the House from Ireland, brought in a bill to establish a system of national education for Ireland, but it was not acted upon on account of the adjournment.

In October, 1831, Mr. Stanley, then Secretary for Ireland, announced, in a letter to the Duke of Leinster, Lord-lieutenant of Ireland, the intention of the Government to appoint a Board of Commission of National Education. The Board were soon after appointed, consisting of the Duke of Leinster, the Protestant Archbishop of Dublin, the Catholic Archbishop of Dublin, Rev. Dr. Francis Sadleir, Rt. Hon. A. R. Blake, and R. Holmes, Esq.,—three Protestants, two Catholics, one Presbyterian, and one Unitarian.

The Board of Commissioners have now been in existence about eighteen years. During that time they have encountered bitter opposition from able but ultra zealots in the Protestant and Catholic churches; but, sustained by the Government under the administration of all political parties, they have gone on extending their operations, and accomplishing results which are worthy of the attentive study of every statesman and educator. The fruits of their labors are already visible, but they will be “read of all men” when another generation comes on the stage.

The following are among the results of their measures :

I. The Board have succeeded in establishing a system of National Education, or have made the nearest approach to such a system, which knows no distinction of party or creed in the children to whom it proffers its blessing, and at the same time it guarantees to parents and guardians of all communions, according to the civil rights with which the laws of the land invest them, the power of determining what religious instruction the children over whom they have authority shall receive, and it prohibits all attempts at enforcing any, either on Protestant or Roman Catholic children, to which their parents or guardians object.

“For nearly the whole of the last century, the Government of Ireland labored to promote Protestant education, and tolerated no other. Large grants of public money were voted for having children educated in the Protestant faith, while it was made a transportable offense in a Roman Catholic (and if the party returned, high treason) to act as a schoolmaster, or assistant to a schoolmaster,

or even as a tutor in a private family.* The acts passed for this purpose continued in force from 1709 to 1783. They were then repealed, but Parliament continued to vote money for the support only of schools conducted on principles which were regarded by the great body of the Roman Catholics as exclusively Protestant, until the present system was established."

"The principles on which they were conducted rendered them to a great extent exclusive with respect either to Protestants or to Roman Catholics; Roman Catholic schools being conducted on Roman Catholic principles, were, of course, objectionable generally to Protestants; while Protestant schools, being conducted on Protestant principles, were equally objectionable to Roman Catholics; and being regarded by Roman Catholics as adverse establishments, they tended, when under the patronage of Government, and supported by public money, to excite, in the bulk of the population, feelings of discontent toward the state, and of alienation from it."

"From these defects the National Schools are free. In them the importance of religion is constantly impressed upon the minds of the children, through works calculated to promote good principles, and fill the heart with a love of religion, but which are so compiled as not to clash with the doctrines of any particular class of Christians. The children are thus prepared for those more strict religious exercises which it is the peculiar province of the ministers of religion to superintend or direct, and for which stated times are set apart in each school, so that each class of Christians may thus receive, separately, such religious instruction, and from such persons, as their parents or pastors may approve or appoint."

The following Regulations will show the manner in which the Board have aimed to avoid the difficulty of religious instruction in schools composed of different denominations, as well as the prejudices of political parties:

As to Government of Schools with respect to Attendance and Religious Instruction.

"1. The ordinary school business, during which all children, of whatever denomination they may be, are required to attend, is to embrace a specified number of hours each day.

2. Opportunities are to be afforded to the children of each school for receiving such religious instruction as their parents or guardians approve of.

3. The patrons of the several schools have the right of appointing such religious instruction as they may think proper to be given therein, provided that each school be open to children of all communions; that due regard be had to parental right and authority; that, accordingly, no child be compelled to receive, or be present at, any religious instruction to which his parents or guardians object; and that the time for giving it be so fixed, that no child shall be thereby, in effect, excluded, directly or indirectly, from the other advantages which the school affords. Subject to this, religious instruction may be given either during the fixed school-hours or otherwise.

4. In schools, toward the building of which the Commissioners have contributed, and which are, therefore, vested in trustees for the purposes of national education, such pastors or other persons as shall be approved of by the parents or guardians of the children respectively, shall have access to them in the school-room, for the purpose of giving them religious instruction there, at convenient times to be appointed for that purpose, whether those pastors or persons shall have signed the original application or otherwise.

5. In schools not vested, but which receive aid only by way of salary and books, it is for the patrons to determine whether religious instruction shall be given in the school-room or not: but if they do not allow it in the school-room, the children whose parents or guardians so desire, must be allowed to absent themselves from the school, at reasonable times, for the purpose of receiving such instruction elsewhere.

6. The reading of the Scriptures, either in the Protestant authorized, or Douay version, as well as the teaching of catechisms, comes within the rule as to religious instruction.

* See 8th Anne, c. 3, and 9th William III. c. 1.

7. The rule as to religious instruction applies to public prayer and to all other religious exercises.

8. The Commissioners do not insist on the Scripture lessons being read in any of the national schools, nor do they allow them to be read during the time of secular or literary instruction, in any school attended by children whose parents or guardians object to their being so read. In such case, the Commissioners prohibit the use of them, except at the times of religious instruction, when the persons giving it may use these lessons or not, as they think proper.

9. Whatever arrangement is made in any school for giving religious instruction, must be *publicly notified* in the school-room, in order that those children, and those only, may be present whose parents or guardians allow them.

10. If any other books than the Holy Scriptures, or the *standard* books of the church to which the children using them belong, are employed in communicating religious instruction, the title of each is to be made known to the Commissioners.

11. The use of the books published by the Commissioners is not compulsory; but the titles of all other books which the conductors of schools intend for the ordinary school business, are to be reported to the Commissioners; and none are to be used to which they object; but they prohibit such only as may appear to them to contain matter objectionable in itself, or objectionable for *common* instruction, as peculiarly belonging to some particular religious denomination.

12. A registry is to be kept in each school of the daily attendance of the scholars, and the average attendance, according to the form furnished by the Commissioners."

II. The Board have done much to improve the literary qualifications, and professional knowledge, and skill of teachers, as well as their pecuniary condition, and by a judicious system of classification in salaries, and rewarding cases of extraordinary fidelity and success, to diffuse a spirit of self-education throughout the whole profession. The main defect in the schools of Ireland at the institution of the Board was the incompetency of the teachers. They were in general extremely poor, many of them were very ignorant, and not capable of teaching well even the mere art of reading and writing; and such of them as could do so much, were for the most part utterly incapable of combining instruction in it with such a training of the mind as could produce general information and improvement. One of the first and main objects of the Board was, and continues to be, to furnish an opportunity to deserving persons of the right character, to qualify themselves properly for teaching, and then, by a fair prospect of remuneration and advancement, to devote themselves to the business for life, with a holy national and catholic spirit. A brief notice of the successive steps by which the present system of training and aiding teachers in Ireland was reached, will be appropriate to the design of this work. The earliest indication of any movement in the educational history of Ireland, for the professional training of teachers, was in 1812.

In their thirteenth annual (for 1812) report, the "Commissioners for inquiring into the state of all schools on public or charitable foundations in Ireland," recommend the appointment of a Board of Commissioners as the first step in a system of National Education, with power to establish a number of additional or supplementary schools to those already in existence, and that they be "directed and required to apply themselves immediately to the preparing a sufficient number of well-qualified masters to undertake the conduct of such supplementary schools as they should from time to time proceed to endow."

"We have already adverted to the deplorable want of such qualification in a great majority of those who now teach in the common schools, and to the pernicious consequences arising from it; their ignorance, we have reason to believe, is not seldom their least disqualification; and the want of proper books often combines with their own opinions and propensities in introducing into their schools such as are of the worst tendency. Even for schools of a superior description, and under better control, there is a general complaint that proper masters can not be procured without much difficulty; and we are persuaded that a more essential service could not be rendered to the State than by carrying into effect a practicable mode of supplying a succession of well-qualified instructors for the children of the lower classes."

The recommendations of the Commission were not acted upon, but annual grants were subsequently made to the Kildare Place School Society, which were applied in establishing two Model Schools in Dublin, in which teachers, intended for their employment, were practised in the mechanism and methods of the particular system of teaching encouraged by that society. The period of instruction, or rather of observation and practice, was brief, and the instruction itself amounted to but little more than a knowledge of the forms and evolutions of the monitorial system of Dr. Bell.

In 1828, R. J. Bryce, Principal of the Belfast Academy, in a pamphlet entitled "*Sketch of a Plan for a System of National Education for Ireland*," pp. 58, presents a very elaborate argument in favor of legislative provision for the education of teachers, as the only sound basis on which a system of public instruction for Ireland could be raised. He sums up his discussion of this branch of the subject in the following manner:

1. It is commonly supposed, that a man who understands a subject must be qualified to teach it, and that the only essential attribute of an instructor is to be himself a good scholar.

2. Even those who are aware that there often exists a difference between two teachers as to their power of communicating, conceive this difference to be of much less importance than it really is; and, if ever they take the trouble to think of its cause, they ascribe it to some mechanical *knack*, or some instinctive predisposition.

3. On the contrary, we maintain, that when a man has acquired the fullest and most profound knowledge of a subject, he is not yet half qualified to teach it. He has to learn how to communicate his knowledge, and how to train the young mind to think for itself. And, as it usually happens that children are placed under the inspection of their instructors, who become in a great measure responsible for their morals, every teacher ought also to know how to govern his pupils, and how to form virtuous habits in their minds. *And this skill in communicating knowledge, and in managing the mind, is by far the most important qualification of a teacher.*

5. Every teacher, before entering on the duties of his profession, ought therefore to make himself acquainted with the *Art of Education*; that is, with a system of rules for communicating ideas, and forming habits; and ought to ob-

* The author thus refers to an article in No. 54 of the North American Review, devoted to Mr. Carter's Essay, which will be found in another part of this work.

"The necessity of some regular provision for instructing teachers in the Art of Teaching, has begun to be felt by all those who take an enlarged and rational view of the subject of education. The first rude essay was made in the model schools of Bell and Lancaster. But reflecting people soon saw the utter inefficiency of this mere mechanical training, which bears the same relation to a true and rational system of professional education for teachers, that the steam-engine of the Marquis of Worcester bears to the steam-engine of Watt. Hints to this purpose we have met with in various places; but the first regular publication on the subject that we have heard of, is one by Mr. J. G. Carter, an American writer, with which we are acquainted only through a short article in No. LIV. of the North American Review. * * *

In short we recommend the whole of this article to the careful perusal of the friends of real education in Britain and Ireland."

tain such a knowledge of the philosophy of mind, as shall enable him to understand the reasons of those rules, and to apply them with judgment and discretion to the great diversity of dispositions with which he will meet in the course of his professional labors.

6. No man is qualified for the delicate and difficult work of managing the youthful mind, unless his own mental faculties have been sharpened and invigorated by the exercise afforded to them in the course of a good general education.

7. Therefore, a legislature *never* can succeed in establishing a good system of national education, without making some provision for insuring a supply of teachers possessed of the qualifications specified in the two last articles; in order to which, it is indispensably necessary, that Professorships of the Art of Teaching be instituted; and that students, placing themselves under the care of such professors, be required to have previously attained a good general education, and, in particular, a competent knowledge of the philosophy of the human mind.

In 1831, the Board of Commissioners of National Education in Ireland was established. In a letter from Hon. E. G. Stanley, Chief Secretary for Ireland, explaining the powers and objects of the Board, one of the objects is declared to be "the establishing and maintaining a Model School in Dublin, and training teachers for country schools," and it is made a condition on which pecuniary aid shall be granted to any teacher, that "he shall have received previous instruction in a Model School to be established in Ireland."

In April, 1833, two Model Schools, one for males and one for females, were established by the Board, and two courses of instruction provided for teachers in each year, to continue three months each. In 1834, steps were taken to extend both the Model Schools and the Training Establishment, as set forth in their Report for 1835.

"If we are furnished with adequate means by the State, not only for training schoolmasters, but for inducing competent persons to become candidates for teacherships, through a fair prospect of remuneration and advancement, we have no doubt whatever that a new class of schoolmasters may be trained, whose conduct and influence must be highly beneficial in promoting morality, harmony, and good order, in the country parts of Ireland.

It is only through such persons that we can hope to render the National Schools successful in improving the general condition of the people. It is not, however, merely through the schools committed to their charge that the beneficial effects of their influence would be felt. Living in friendly habits with the people; not greatly elevated above them, but so provided for as to be able to maintain a respectable station; trained to good habits; identified in interest with the State, and therefore anxious to promote a spirit of obedience to lawful authority; we are confident that they would prove a body of the utmost value and importance in promoting civilization and peace.

Formerly, nothing was attempted in elementary schools further than to communicate the art of reading, writing, and arithmetic, with some knowledge of grammar, geography, and history. Latterly, teachers have made use of the reading lessons to convey information. Writing has been made subservient to the teaching of spelling, grammar, and composition, and also to the fixing of instruction on the memory. Arithmetic, instead of being taught by unexplained rules, has been made the vehicle for conveying the elements of mathematical knowledge, and training the mind to accuracy of thinking and reasoning. Reading-books have latterly been compiled on these principles, the lessons being so selected as to convey the elements of knowledge on a variety of subjects. And this introduction of intellectual exercises into the teaching of these elementary arts, has been found to produce a reflex effect upon the progress of the pupils in learning the arts themselves. Children are found to be more easily taught to read when, while they are learning to pronounce and combine syllables and words into sentences, they are receiving information. Their writing

proceeds better when, while they are learning the mechanical art, they are learning the use of it; and they become better arithmeticians when the principles on which arithmetical operations are founded are gradually developed to them.

To teach upon this principle, it is absolutely necessary that the teacher not only be able to read, and spell, and write well, and be a good practical arithmetician, but that he be a person of general intelligence, having an extensive and accurate knowledge of the subjects treated of in the reading lessons. He must know much more than is expressed in the lessons themselves, or he will be totally unable to explain them familiarly, to correct the mistakes into which his pupils fall, and answer the innumerable questions that will be put to him as soon as the understanding of his pupils begins to be exercised on any subject.

It is therefore necessary that teachers should not merely be able to teach their pupils to read, write, and to conduct schools upon an approved system of discipline, but that they be able to aid in forming the minds of children, and directing their power of reading into a beneficial channel. The power of reading is frequently lost to children, and even becomes a source of corruption and mischief to them, because they have never been directed to the proper use of it; and it is consequently of the highest importance that, while they are taught to read, their thoughts and inclinations should have a beneficial direction given to them. To effect this, manifestly requires a teacher of considerable skill and intelligence.

To secure the services of such persons, it is material that suitable means of instruction should be provided for those who desire to prepare themselves for the office of teaching, and that persons of character and ability should be induced to seek it by the prospect of adequate advantages.

With these views, we propose establishing five Professorships in our training institution. I. Of the art of teaching and conducting schools. The professor of this branch to be the head of the institution. II. Of composition. English literature, history, geography, and political economy. III. Of natural history in all its branches. IV. Of mathematics and mathematical science. V. Of mental philosophy, including the elements of logic and rhetoric. We propose that no person shall be admitted to the training institution, who does not previously undergo a satisfactory examination in an entrance course to be appointed for that purpose; and that each person who may be admitted shall study in it for at least two years before he be declared fit to undertake the charge of a school; that during this time, he shall receive instruction in the different branches of knowledge already specified, and be practised in teaching the model school, under the direction of the professor of teaching.

We are of opinion that, in addition to the general training institution, thirty-two district Model Schools should be established, being a number equal to that of the counties of Ireland; that those Model Schools should be under the direction of teachers chosen for superior attainments, and receiving superior remuneration to those charged with the general or Primary Schools; and that, hereafter, each candidate for admission to the training establishments should undergo a preparatory training in one of them.

We think the salary of the teacher of each Model School should be £100 a year, and that he should have two assistants, having a salary of £50 a year each.

We consider that the teacher of each Primary School should have a certain salary of £25 a year; and that the Commissioners for the time being should be authorized to award annually to each a further sum, not exceeding £5, provided they shall see cause for doing so in the Inspector's report of his general conduct, and the character of the school committed to him. We are also of opinion that each teacher should be furnished with apartments adjoining the school.

By the parliamentary grants of 1835 and 1836, the Board were enabled to proceed with the erection of suitable buildings, and the establishment of the Model School, and Training Department, in Marlborough street, Dublin, which were completed in 1838. To this, in 1839, was added a Model Farm, and School of Agriculture, at Glasnevin, in the neighborhood of Dublin, where the male teachers are lodged, and where they receive a course of instruction in agricultural science and practice.

The training department was at first intended for schoolmasters; but in 1840, through the munificent donation of £1000, by Mrs. Drummond, for this special purpose, and an appropriation of a like amount by the Government, a suitable building was erected in connection with the Model School in Marlborough street, for the training of female teachers. In addition to the ordinary course of instruction in the theory and practice of teaching, schoolmistresses are instructed in plain needlework, in the art of cutting out and making up articles of female wearing apparel, in the arts of domestic economy, such as cottage cookery, washing, ironing, mangling, and other useful branches of household management.

The Commissioners have recently erected in Dublin subsidiary Model Schools, where temporary courses of instruction are given to teachers already connected with National Schools.

In connection with, and in extension of the plan of the central Training Establishment, a system of Primary Model Schools in each district into which the country is divided, is commenced. To several of these schools a residence for the teacher, and land for a Model Farm, are annexed. It is in contemplation to make these District Model Schools the residence of the inspector, and depots for a supply of school books, apparatus, and requisites for the schools of the district. Respecting these Model Schools and Training Department, the Board remark in 1848:

"Our training establishments continue in a prosperous state. We have trained, during the year, and supported at the public expense, 224 national teachers, of whom 137 were males and 87 were females. We also trained 14 teachers not connected with National Schools, and who maintained themselves during their attendance at the Model Schools. Of the 224 teachers of National Schools trained during the year, 7 were of the Established Church, 37 Presbyterians, 3 Dissenters of other denominations, and 175 Roman Catholics. The total number of male and female teachers trained, from the commencement of our proceedings to the 31st of December, 1847, is 2,044. We do not include in this number those teachers who are not connected with National Schools.

With reference to the training of teachers we have to observe, that the experience of each successive year strengthens our conviction of its importance. It is vain to expect that the National Schools, established in all parts of Ireland, will ever be effectively conducted, or the art of communicating knowledge materially improved, until a sufficient number of well-paid masters and mistresses can be supplied, thoroughly qualified, by previous training, to undertake the office of teachers, and feeling a zealous interest in promoting the great objects of their profession.

We have observed, with satisfaction, a marked improvement in the appearance, manners, and attainments of every successive class of teachers, who come up to be trained in our Normal establishment. With reference to the two last classes, we have ascertained that 34 teachers in the last, and 73 in the present, had been originally educated *as pupils* in National Schools. It is from this description of persons, to whom the practice of instructing others has been familiar from their childhood, that we may expect to procure the most intelligent and skillful teachers, to educate the rising generation of Ireland.

It is a gratifying fact, that the good feeling which has always prevailed amongst the teachers of different religious denominations residing together in our training establishment, has suffered no interruption whatever during the last year of extraordinary public excitement.

Whilst every attention has been paid to the improvement of the children in our Model Schools, in the various branches of their secular education, the paramount duty of giving to them, and the teachers in training, religious instruction, has not been neglected by those intrusted with that duty. Upon this subject we deem it expedient to republish the statement made in our Report of last

year, which is as follows:—"The arrangements for the separate religious instruction of the children of all persuasions attending these schools, and also of the teachers in training, continue to be carried into effect every Tuesday, under the respective clergymen, with punctuality and satisfaction. Previously to the arrival of the clergymen, each of the teachers in training is employed in giving catechetical and other religious instruction to a small class of children belonging to his own communion. These teachers attend their respective places of worship on Sundays; and every facility is given, both before and after Divine service, as well as at other times, for their spiritual improvement, under the directions of their clergy."

III. They have not only increased the number of ordinary elementary schools, but they have established and aided a number of special schools of different grades, pre-eminently calculated to benefit the people of Ireland.

1. *Evening Schools.* The experiment was commenced at Dublin, under the direct inspection of the Board, and was conducted to their satisfaction. They thus refer to the subject in their report for 1847:

"The average attendance of the Evening School on our premises in Marlborough street, Dublin, during the past year, was about 200, composed partly of boys who could not attend school during the day, and partly of adults.

The anxiety evinced by boys, and by young men from eighteen to twenty-five years of age, to participate in the advantages afforded by this school, confirms our opinion that such institutions, if well conducted, will be of incalculable benefit to the working classes; and that, if established in large towns, or in populous localities adjoining them, they will form an important step in the education of the artisan between the common National School and the Mechanics' Institution. After the toils of the day, the humble laborer and the tradesman, will find in Evening Schools the means of literary and moral improvement, and a protection against temptations to which, at their age, this class of persons are peculiarly exposed.

We received during the year numerous applications for aid to Evening Schools, the majority of which we rejected, being of opinion that our grants for this purpose should as yet be confined to large towns, in which trade and manufactures are extensively carried on, and where alone we at present possess the means of inspection. We made grants to twelve Evening Schools in the course of the year. It is probable that the number of applications for assistance will gradually increase. Should this be the case, we shall take the necessary steps to ascertain that the Evening Schools are properly conducted, and that the system of education carried on in them, is adapted to the varied occupations of the artisans, mechanics, and others, who are desirous of obtaining the special instruction which their several trades and avocations require."

2. *Workhouse Schools.* The children of families provided for in workhouses, under the Poor Law Commissioners in Ireland, are gathered into schools under the care of the Board. In 1847 there were 104 of these schools, for which the Board propose the following vigorous measures of improvement:

"1. That the minimum rate of salary to male teachers, in addition to apartments and rations, shall be £30 a year; and to female teachers £25, exclusive of any gratuity from the Commissioners of National Education.

2. That no teacher shall be required to undertake the instruction of more than from 80 to 100 children; and that assistant teachers be provided, at lower salaries, when the daily average attendance considerably exceeds 100.

3. That in female schools, when the number of pupils considerably exceeds 100, a work-mistress be engaged, in addition to the principal teacher, to instruct the children in the various branches of plain needlework, and in the art of cutting out, and making up articles of female wearing apparel.

4. That the whole time of the teachers shall be devoted to the literary, moral,

and industrial education of the children, and to the superintendence of them, during the hours of recreation and manual labor.

5. That Evening Schools be opened for the instruction of the adult paupers, and of such of the pupils of the day schools, as it may be practicable and desirable to have in attendance for two hours each evening. The Evening Schools to be conducted by the teachers of the day schools.

6. That the number of children to be accommodated in each school-room be so regulated, as that a space of at least six square feet be allowed for each child.

7. That every Workhouse School, in connection with the Commissioners of National Education, be supplied with suitable furniture and apparatus, according to models to be furnished by them.

8. That each Workhouse School, on its coming into connection with the Commissioners of National Education, be gratuitously supplied with a complete outfit of books, maps, stationery, &c., and that a further supply be granted afterward, at stated periods.

9. That two of the local Guardians be requested to visit the schools weekly, and report once a month to the Board of Guardians. This duty might be rendered less onerous, if undertaken by the members of the Board in rotation.

10. That in order to provide industrial training for pauper-children, a sufficient quantity of land be annexed to each Workhouse, to be cultivated as farms and gardens by the pupils of the schools; and that, for this purpose, Agriculturalists be appointed, to the most deserving of whom the Commissioners of National Education will award gratuities not exceeding £15 each.

11. That it is advisable, under particular circumstances, to consolidate two or three Unions, and to establish a Central Agricultural School, to be attended by the children of each."

3. *Industrial Schools.* The Board have extended aid to a class of schools which gather in children who can not ordinarily be induced to attend the regular day schools, and who need special care and training. The results are shown in the following extracts from the Reports of the Inspectors appointed by the Board:

"*Claddagh Fishing School, County Galway.*—The attendance has been, sometimes, over 500, and the average for six months has been nearly 400. I regret that the apparatus requisite for giving an extensive course of instruction on practice of navigation has not been provided, and that there are no funds available for this purpose.

Since the opening of the female schools, 36 girls have been employed in the industrial room at spinning and net-making; and in providing materials and making trifling donations to children, £66 1s. 6d. have been nearly expended. The schools are in a much better state than I expected them to be, the merit of which must be attributed to the praiseworthy assiduity and attention of the manager, and rev. gentlemen of the Claddagh convent."

4. *Agricultural Schools.* In accordance with the wise policy which has characterized all the measures of the Board, of trying all new experiments under their own inspection, and of exhibiting a working plan, the Board first established a Model Farm and Agricultural School at Glasnevin, in connection with the Training Establishment in Dublin, and afterward attached an ordinary National School to the establishment at Glasnevin, to ascertain to what extent industrial training suited to the wants and circumstances of the locality, could be united with literary instruction. As to the results the Board remark:

"It has proved that literary instruction and practical instruction in gardening, together with some knowledge of agriculture, may be successfully communicated to boys in a National School by one master, provided he be zealous and skillful. No difficulty has been experienced in inducing a limited number of the advanced boys to work in the garden two hours each day, after the ordinary school business. The scholars composing the Industrial class are paid sixpence a week each for their labor; and the produce of the garden is valued to

the Commissioners, at the current market prices, for the use of the teachers and domestics, in the male and female training establishments: an account is kept by the teacher of the receipts as well as of the expenses of cultivation. Our masters in training have thus an opportunity of seeing a model of what a small village school ought to be in a rural district, and how far it is practicable, under one and the same master, to unite literary and industrial education. The boys employed in cultivating the garden attend daily, together with the teachers in training, a course of lectures on the elementary principles of agriculture, as well as of gardening. The practical information they thus acquire, and the habits of industry to which they become accustomed, can not fail to be highly serviceable to them in after life. It will be a subject for future consideration, whether this arrangement for the regulation of the labor of the garden might not be so altered, as to place under each of the pupils a small allotment, which he shall be required to cultivate, being permitted to receive a portion of the profit derived from his industry.

We conceive that no greater boon could be conferred upon Ireland than the establishment of similar schools in every country parish. They would not only be conducive to the improvement of the laboring classes themselves, but would tend materially to remove the prejudices existing amongst many respectable farmers, against the mere literary education of the peasantry. Schools of this description would prove, by the combination of intellectual with industrial training, that not only are the understandings of the young developed by this species of education, but their bodies formed and disciplined to habits of useful and skillful labor."

After training up teachers competent to conduct Agricultural Schools, and showing them a working model of such a school, and also of an ordinary school in which agriculture was introduced as a study and an exercise, the Board proceeded to establish Model Agricultural Schools, publish Agricultural Class Books, and promote the study of agriculture in all the schools under their care, in appropriate situations. In their Report for 1847 they remark:

"We had in operation on the 31st of December, 1847, seven Model Agricultural Schools; and we have made building grants of £200 each to ten others of this class, some of which are in progress. In addition to those schools, there are twelve other Agricultural Schools to which small portions of land are attached; and to the masters of these we pay an additional salary of £5 per annum for their agricultural services; and other emoluments are secured to them by the local managers. Since the commencement of the present year, several applications have been received for aid both to Model and ordinary Agricultural Schools; so that we hope to announce, in our next Report, the establishment of a greater number.

We have published an Agricultural Class Book for the use of the advanced pupils attending the National Schools, which it is intended shall be read by all the pupils capable of understanding its contents. The object of this little work is to explain, in as simple language as possible, the best mode of managing a small farm and kitchen garden. Appended to it are introductory exercises, in which the scholars should be examined by the teachers. In order to render the lessons attractive, they have been thrown into the form of a narrative, calculated to arrest the attention of young readers. This reading book is not, however, designed as an agricultural manual for our teachers. We propose to supply this want by the publication of a series of agricultural works, rising from the simplest elementary book, to scientific teaching of a high character, and comprehending various branches of practical knowledge, bearing upon the subject of agricultural instruction. We distributed last year, amongst our teachers, a variety of cheap and useful tracts, relating to the best modes of cultivating the soil, and providing against the dearth of food; and we are now engaged in circulating, amongst our masters, several other elementary treatises on husbandry, recently published under the direction of the Royal Agricultural Society, and containing much valuable information.

In a limited number of large National Schools, situated in rural districts, we intend to introduce agricultural instruction, subject to the following conditions

If the manager of a National School of this description, or any respectable person of whom he approves, shall annex to it a farm of eight or ten acres, and erect the necessary farm buildings thereon, without requiring any grant from us toward building, repairs, the purchase of stock, or the payment of rent, we propose in such cases to pay the Agricultural teacher a salary not exceeding £30 per annum.

We shall leave the appointment of the teacher and the superintendence of the farm to the proprietor of the land, or to the manager of the school, should he also be the owner of the land. All we shall require will be, that the teacher be competent, in the opinion of our Agricultural Inspector, to manage the farm according to the most improved system; and that he shall instruct daily, in the theory and practice of agriculture, a sufficient number of advanced boys, who shall be in attendance at the adjoining National School. Our Agricultural Inspector will be required to report half-yearly whether the farm has been conducted to his satisfaction, and whether the regulations which we shall prescribe for the agricultural instruction of the pupils have been strictly adhered to.

The plan we have now explained can not be effectually worked by our ordinary inspectors. It will be necessary, therefore, that our Agricultural Schools, including our Model Farm at Glasnevin, should be under the superintendence of a person, practically conversant with agricultural operations, with plans of farm buildings, and the best method of keeping farming accounts; and who shall be competent to examine and report on the system of agricultural instruction adopted in schools of this description. We have, accordingly, determined upon appointing an officer to discharge those important duties. With his assistance, we shall in future be able to make full and satisfactory reports to Parliament of the agricultural branch of our system.

In order to supply the demand for persons qualified to conduct farms and Agricultural Schools, we have resolved upon increasing, from twelve to twenty-four, the number of agricultural pupils, who compose the free class, at our Model Farm, Glasnevin; also, upon increasing to the same extent the number of agricultural teachers at our training establishment there. We shall thus have a total of forty-eight pupils and teachers, who will be all under instruction at the same time.

Our agricultural pupils are selected from the best qualified of our pupils attending our several Agricultural Schools throughout Ireland; and our agricultural teachers who come up to be trained, are chosen from among the masters of ordinary National Schools. This arrangement is calculated to accelerate the diffusion of agricultural instruction throughout our schools, and, generally, amongst our teachers.

Though convinced that, by means of these and other arrangements, we may become instrumental in promoting the cause of Agricultural Education in Ireland, we feel bound to state that we can accomplish little, unless our efforts be cordially sustained by the co-operation of the landed proprietors of the country. The Agricultural Schools must, in almost all cases, be created by them, and conducted under their directions. It will be necessary for them to expend much money, and bestow constant care upon them. The salaries, training, and inspection, furnished by the state, are indispensable; but they will be unavailing if local expenditure and exertions do not supply the groundwork upon which the assistance of Government is to be brought into operation."

5. School Libraries. From the following extracts, it will be seen that the Board are about to adopt the educational policy of New York and Massachusetts in extending the means of self-education out of school hours, and beyond the period of school attendance.

"The want of School Libraries for the use of the children attending our schools has been long felt. To compile a series of instructive and entertaining works adapted to this purpose, would occupy a very considerable time, and require the assistance of many individuals well qualified for compiling books suited to the minds of children. Under these circumstances, we have adopted the necessary steps for the selection of a sufficient number from those already published. Care will be taken that they are unobjectionable in all respects, to the members of every religious denomination. We shall buy them from the publishers at the lowest cost, and sell them at reduced prices to such of the

managers of our schools as may approve of their being lent to their pupils. We shall also frame regulations for managing the School Libraries when formed, which will insure a regular delivery and return of the books."

IV. The Board have aided in the erection and fitting up of more than 3000 school-houses in different parts of Ireland, by contributing an amount, not more in any case than two-thirds of the sum actually expended. The expenditure in Ireland for school-houses, in connection with the Board, up to 1850, has been estimated at \$2,500,000. The Commissioners must be satisfied as to the site, size, furniture, material, and workmanlike manner of the work done, before the payment of any grant.

V. The Board have succeeded in publishing and introducing a valuable series of text books, maps and school requisites, prepared with great care, and furnished for a first supply, and at the end of every four years *gratuitously* to each school, and at other times *below cost*. Great pains have been taken to exclude from all books published or sanctioned by them, every thing of a sectarian or party character, the upper and the nether millstone between which Ireland has been for two centuries crushed. The publication of this "Irish National Series of School Books," has had the effect already to reduce the price of all school books in England and Scotland, and to lead to the revision of most of the standing text books, in order to compete with this new competitor in the market. In their Fourteenth Report (for 1847) the Board remark:

"We have the gratification to state that the demand for our school-books, in England and Scotland, is progressively increasing. Many of our colonies, too, have been supplied during the year with large quantities; and in some of them a system of public instruction for the poor, similar in its general character to that of the national system in Ireland, as being equally adapted to a population of a mixed character as to their religious persuasions, is likely to be established. We have sent books and requisites to Australia, British Guiana, Canada, New Brunswick, Newfoundland, Nova Scotia, Gibraltar, and Malta. A complete series of our National school-books was also sent to Lord Seaton, the Governor of Corfu; and it is not improbable that they will be translated, at no distant period, into the Greek language, for the use of children attending schools in the Ionian Islands."

VI. The Board have subjected their schools to a system of thorough, periodical and intelligent inspection, by which all abuses and deficiencies are detected, and at once corrected or supplied, and a stimulus of the most powerful character is brought to bear on all of the teachers in any way aided by the Commissioners.

Besides three head inspectors residing at Dublin, for local duties and special business abroad, there are thirty-four district inspectors, who devote their whole time to the services of the Board, under the following regulations:

1. The commissioners do not take the control or regulation of any school, except their own model schools, directly into their own hands, but leave all schools aided by them under the authority of the local conductors. The inspectors, therefore, are not to give direct orders, as on the part of the Board, respecting any necessary regulations, but to point out such regulations to the conductors of the school, that they may give the requisite orders.

2. The commissioners require that every National School be inspected by the inspector of the district, at least three times in each year.

3. The district inspector, on each inspection, is to communicate with the patron or correspondent, for the purpose of affording information concerning the general state of the school, and pointing out such violations of rule, or defects, if any, as he may have observed; and he is to make such suggestions as he may deem necessary.

4. He is to examine the visitors' book, or daily report book, and to transmit to the commissioners copies of any observations made therein which he may consider to be of importance.

5. He is not to make any observation in the book except the date of his visit, the time occupied in the inspection of the school, showing the precise time at which it commenced and the precise time at which it terminated; and also the number of scholars present.

6. Upon ordinary occasions, he is not to give any intimation of his intended visit; but during the middle term of the year, from the 1st of May to the 31st of August, when the inspection is to be public, he is to make such previous arrangements with the local managers, as will facilitate the attendance of the parents of the children, and other persons interested in the welfare of the schools.

7. He is to report to the commissioners the result of each visit, and to use every means to obtain accurate information as to the discipline, management, and methods of instruction pursued in the school.

8. He is to examine all the classes in succession, in their different branches of study, so as to enable him to ascertain the degree and efficiency of the instruction imparted.

9. He is to examine the class rolls, register, and daily report book; and to report with accuracy what is the actual number of children receiving instruction at the school, and what is the daily average attendance.

10. He is to receive a monthly report from the teacher of each school, and also to make one quarterly himself to the commissioners, in addition to his ordinary report upon the school after each visit.

11. He is also to supply the commissioners with such local information as they may from time to time require from him, and to act as their agent in all matters in which they may employ him; but he is not invested with authority to decide upon any question affecting a National School, or the general business of the commissioners, without their direction.

12. When applications for aid are referred to the district inspector, he is to communicate with the applicant so as to insure an interview, and also with the clergymen of the different denominations in the neighborhood, with the view of ascertaining their sentiments on the case, and whether they have any, and what, objections thereto. He is also to communicate personally, if necessary, with any other individuals in the neighborhood.

13. The district inspector is to avoid all discussions of a religious or political nature; he is to exhibit a courteous and conciliatory demeanor toward all persons with whom he is to communicate, and to pursue such a line of conduct as will tend to uphold the just influence and authority both of managers and teachers.

VII. They have, by their wise and successful measures, induced the British Parliament to increase their annual appropriation in aid of National Education in Ireland. The sum appropriated in 1831 was £4,328; in 1835, £35,000; in 1840, £50,000; and in 1847, £90,000. The whole sum expended by the Board in 1847 was £102,318. To the amount received from the Treasury was added the sum of £8,500, realized from the sale of books, published by the Board. The sum appropriated by the Board is made the condition and inducement of a still larger sum being raised by local and parental effort. The following account of the expenditures of the Board for 1847, will indicate the objects which they aimed to accomplish:

THE DISCHARGE.		£. s. d.	£. s. d.
NORMAL ESTABLISHMENT:			
Salaries and Wages,		861 0 0	
General Expenditure,		23 9 10	
MALE TRAINING DEPARTMENT, GLASNEVIN:			
Salaries and Wages,		136 3 4	
Maintenance and Traveling,		1,218 13 5	
General Expenditure,		312 16 8	
MALE TRAINING DEPARTMENT, GREAT GEORGE'S-STREET:			
Salaries and Wages,		119 7 8	
Maintenance and Traveling,		998 12 9	
General Expenditure,		248 7 5	
MALE TEMPORARY DEPARTMENT, 27, MARLBOROUGH-STREET:			
Salaries and Wages,		307 16 0	
FEMALE TRAINING DEPARTMENT:			
Salaries and Wages,		183 0 0	
Maintenance and Traveling,		1,130 0 8	
General Expenditure,		306 1 8	
MODEL SCHOOL DEPARTMENT.			
Evening School, MARLBOROUGH-STREET,		832 19 10	
Model Farm Department, including the Board and Lodging of Agricultural Pupils and Teachers, Rent, Permanent Improvements, Salaries, Wages, &c.,		101 9 10	
Purchase of Farm Stock and Agricultural Implements, from Mr. Skilling, in November,		921 19 8	
GLASNEVIN NATIONAL SCHOOL:—Completion of Building, Fitting-up, &c.,		916 2 7	
GLASNEVIN EVENING SCHOOL,		744 18 9	
		21 16 6	
BUILDING FITTING-UP, REPAIRING, &c., SCHOOL-HOUSES.			
Do. Do. AGRICULTURAL, INDUSTRIAL AND OTHER SCHOOLS,		3,956 7 10	9,333 17 7
SALARIES TO TEACHERS AND MONITORS,			
DISTRICT MODEL SCHOOLS:—			
Purchase, Rent, toward Building, Furnishing, &c.,		500 0 0	4,335 16 7
Salaries and Allowances to teachers,			50,200 6 1
General Expenditure,		232 13 0	
INSPECTION,			
BOOK DEPARTMENT:—			
Her Majesty's Stationery Office, for one year ending 31st March, 1847, for Paper, Printing, Binding of National School Books, including Slates, Pencils, and other School Requisites,		14,064 8 5	
For Books and Requisites purchased from Publishers, and sold to the National Schools at reduced prices, Salaries, &c.,		3,330 4 0	17,403 13 2
OFFICIAL ESTABLISHMENT IN MARLBOROUGH-STREET,			
Repairs and Works at MARLBOROUGH-STREET, including Purchase of ground in Here, for New Male Training Establishment, Building and Fitting-up New Book Stores,		1,100 0 0	4,961 3 8
Sundry Repairs and Alterations in various Departments,		1,500 0 0	
		1,412 4 2	4,012 4 9
MISCELLANEOUS:—			
Rates, Taxes, and Insurance,		301 11 6	
Coal, Candles, Gas, &c.,		435 9 0	
Postage,		380 5 0	
Stamps,		136 15 0	
Incidents, { Law Costs, £624 13 2			
	{ Sundries, 165 3 3	580 15 5	
Gratuities to Monitors, from Model School Fund,			1,843 15 11
JAMES CLARIDGE, Accountant.			134 2 8
			102,318 14 3

VIII. The success which has attended the efforts of the Board even under the extraordinary and peculiarly difficult circumstances of Ireland, has had a powerful influence on the cause of educational improvement in England, and other parts of the British Empire.

Much has been done within five years past, and more is now doing in the Province of Upper Canada, by the Government, to establish a system of common schools than in any one of the American States, not excepting even New York, or Massachusetts. The action of the enlightened and indefatigable superintendent of schools, the Rev. Egerton Ryerson, D. D., has been guided more by the experience of the National Board of Ireland than that of any other State.

The following survey of the operations of the National Board of Education for Ireland appeared in the "*Westminster Review*" for July, 1860.

It was no part of the design of the National Board to monopolize educational activity, or throw obstacles in the way of the freest development of private enterprise engaged in the same task. The functions which they undertook to discharge were not to supersede, but to supplement, to aid, and to improve—to supply schools where schools were wanting, to assist them where they were in operation, and above all, through the example of their own models, to raise the general character of education. Agreeably with this design, the Board framed its rules upon a threefold plan, under which three distinct classes of schools were established—the model, the vested, and the non-vested schools.* In the first of these the Board supplied all the funds, and exercised in return exclusive control, appointing the teachers, selecting the books, and regulating the courses of instruction. Of these model schools it was originally intended, though the intention has as yet been but partially realized, that one should be placed in every county in Ireland, with a view, as the name indicates, not merely of supplying education, but still more of serving at once as rivals and models to stimulate and direct the existing educational machinery. In the case of the vested schools the assistance was more limited, as was also the authority exercised. The state supplied to them, as a maximum, two-thirds of the expense of the original foundation, requiring the remaining third to be made up by local exertions; and further contributed to the current yearly expenditure according to the exigencies of each case. In return for this assistance it exacted an adherence to the fundamental rules respecting religious teaching, and claimed a general superintendence over the school, but left to local patrons, subject to the approval of the commissioners, the appointment of the teachers, and the regulation of the details of instruction. Lastly, in the case of the non-vested schools, the connection with the board was of a still slighter kind. In this case, what may be called the "capital" of the undertaking was supplied entirely by local parties, the state merely contributing in the way of salaries and books; while the control was limited to a general veto on the books and teachers employed, the right of inspection, and a prohibition of all compulsion in imparting religious instruction.

Such was the machinery by means of which the Board, established in 1831, proposed to carry out the important task of national education, and the success of the scheme has been commensurate with the wisdom with which it was framed. The commissioners had, from the commencement of their labors down to March, 1858, trained nearly 5,000 teachers. At that date they had under their control 5,308 schools; and these schools were attended by 569,364 pupils. These numbers speak for themselves.

* That is, schools vested in the commissioners as trustees for the public, and schools not so vested, but remaining the property of those by whom they were erected.

They leave no doubt as to the magnitude of the operations of the board; it is instructive to compare them with the futile results of former systems. It is further curious to observe, that the number of children in attendance is as nearly as possible that for which the commissioners originally estimated that the aid of the national schools would be required. Their estimate was, that ultimately 570,000 children would need to be brought under public instruction. No less unquestionable is the excellence of the education given. We but express the concurrent opinion of all who have examined the subject, when we say that the primary education of Ireland is not surpassed, if equalled, in any portion of the empire. When we add that the National Board do not confine their attention to literary and scientific training, but are disseminating, with the happiest effect, a sound knowledge of the principles and practice of agriculture in one hundred and sixty establishments in various parts of the country; and that the Parliamentary grant by which all this is achieved does not much exceed £270,000, we may confidently assert that never were grander results brought about by a smaller outlay. So much for the first criterion of the system's success—that afforded by the extent of its operations. Let us now apply a second test to which in fairness it must submit. It professes to be a *mixed* system; how far has it succeeded in bringing together children of different religious persuasions for common instruction?*

We have been favored with official returns made up to March, 1858, which prove incontestably that, even regarded as a mixed system, the national system of education has been reasonably successful. We shall place some of these results before our readers.

It appears, then, that of 5,222 schools from which returns had been received on the 31st March, 1858, 2,929, or more than fifty-six per cent. of the whole had, in point of fact, a mixed attendance. Nor were these schools in isolated districts, but diffused through the whole country, apparently in fair proportion to the geographical distribution of religious sects. Thus, according as the humbler classes, from which the national schools derive their pupils, were more divided in religious persuasion, the number of mixed schools increased, while it fell in proportion to the prevalence of some one form of religious belief. In several of the counties of Ulster, for example, where the various religious sects are fully represented, the proportion of mixed schools was above ninety per cent., and in the whole province it was eighty-four per cent.; while in some of the Roman Catholic counties it fell as low as thirty per cent. It is, however, satisfactory to think, that in two counties alone in the whole of Ireland did the proportion fall below this per centage, and still more so, that the proportion is increasing. The return from which we quote exhibits an advance of two per cent. on a return made in 1853. How, in the face of facts like these, the national schools can be said to have failed in bringing

* The principle of this Board is, that the national schools shall be open alike to Christians of all religious denominations, and that accordingly no child shall be required to be present at any religious instruction or exercise of which his parents or guardians may disapprove; and that opportunities shall be afforded to all children to receive separately, at particular periods, such religious instruction as their parents or guardians may provide for them.

together for common instruction the children of the various religious sects, we are wholly at a loss to conceive. They have succeeded in this object to an extent which, looking at the numerous obstacles they have had to contend with, may well excite surprise.

But there is a third test by which the system may be tried, and according to which it has been again pronounced a failure. It is admitted—for this point appears to be too clear for cavil—that the national schools have succeeded so far as the Roman Catholics are concerned; but it is maintained that this is the limit of their success, and that the Protestant portion of the nation derives no adequate benefits from the system. Let us for a moment inquire how far this charge is consistent with the facts of the case. As we have already seen, the number of children on the rolls of the national schools for the year ending March, 1858, was 569,864. To this aggregate the different denominations contributed in the following proportions:—

Roman Catholics,.....	481,000
Presbyterians,.....	57,018
Established Church,.....	29,130
Other Protestants,.....	2,216

It hence appears that the Presbyterians contribute considerably more than their quota to the total sum;* on the other hand, it must be admitted that the numbers contributed by the Established Church are below their due proportion; but we shall not find much to wonder at in this, when we remember how much more wealthy the Protestants are than the Roman Catholics, and consequently how much better able to provide education for themselves; as in fact they do through the schools of the Church Education Society.†

Thus much for the pupils. It is interesting to observe that amongst the teachers the various creeds are represented with equal fairness. From returns which lie before us it appears that while the proportion of Protestants of the Established Church on the school rolls is five per cent., the proportion of teachers of the same communion comes out six per cent. The Roman Catholic pupils make up eighty-four per cent., and the

* In the last census, in which the religious denominations of the population of Ireland were noted, the Presbyterians were less than one-tenth of the Roman Catholics.

† It is further to be observed that the number of Protestants has in recent years largely increased. If we again compare the returns given above with those of 1853, we find that of the gross number of pupils on the rolls in that year (490,027) there were:—

Of the Established Church,.....	23,629
" Presbyterians,.....	29,751
" Other Protestants,.....	2,083

making a total of 55,463 as against 88,364 of the year 1858. We have thus an increase of 36 per cent. In favor of the latter year, an increase shared by all the items of the calculation. Surely, if there is any faith to be put in statistics, these figures show that the national system is largely and increasingly acceptable and beneficial to Protestants. We may add that in the model schools, where the highest class of education is given, the Protestants of the Established Church considerably exceed their due proportion, making up one-third of the entire number of pupils in attendance. This fact confirms our impression that the deficiency of members of this communion in the ordinary schools is due to other causes than hostility to the system.

proportion of Roman Catholic teachers is eighty per cent. Lastly, the Presbyterian pupils number ten, the Presbyterian teachers twelve per cent. This correspondence, amazingly exact, considering that it was undesignated, and in fact accidentally brought to light by a hostile critic, admirably illustrates the skill with which the rules of selection have been made, and the fairness with which they are administered by the National Board.

On every ground, then, whether we regard the admixture of children in particular schools, or the aggregate numbers of the great religious denominations which divide the country amongst them, or again the representation of the several creeds in the staff of teachers, we assert that the national system of education in Ireland is fairly entitled to be called a mixed system; and that in this respect, no less than in the extent to which it has been instrumental in diffusing education, it has fairly vindicated its claim to success. It might have been thought that success so complete would have silenced all opposition: and so it would, were the education of the people the primary object of religious parties. This, however, is far from being the case, and consequently the success attending the scheme, instead of disarming, has, it is to be feared, in some instances inflamed the hostility of its opponents. These comprise, on the one hand, the bulk of the clergy of the Established Church, and, on the other, the ultramontane party in the Church of Rome; and are represented respectively by the Church Education Society and the Roman Catholic prelates.

The main objection of the Church Education Society to the national system is that the reading of the Scriptures is not made compulsory on all the children who attend the schools.

To use their own language:—"They conceive that no system of education can be sound in principle, or prove beneficial in its results, which exempts any portion of the pupils it admits into its schools from instruction in the inspired volume. Whatever such a system may be, as regards those whom it permits to receive such instruction, it is essentially defective as regards those whom it permits to refuse it."

The demands of the Roman Catholic prelates presents themselves in a more specious guise. "It is the denominational system which is in force in England; it has been found to answer there; and why should not the same measure of justice, and the same rule of expediency, be applied to both countries?"

In the first place, then, we must observe that the educational institutions of the two countries differ in other respects than those in which the Roman Catholic prelates require assimilation, and further that the particulars in which they differ are of the essence of the case. In Ireland, as we have seen, the expense of elementary education is supported principally by the state. In the Model Schools the expense is exclusively borne by the Government, if we except the small sum derived from pupils' fees; in the vested schools it sustains perhaps three-fourths of the expense; and even to the non-vested schools its contributions are con-

siderable; while the training of teachers is conducted exclusively at the public expense. On the other hand, in England, the principal weight of the charge falls upon the local subscriptions and pupils' fees: it is estimated that over the whole country the sources derived from voluntary effort bear to those derived from the state the proportion of three to two. With this difference in the mode in which the schools in the two countries are supported, it does not seem strange that there should be a difference in the mode of imparting religious instruction—it is not strange that, while in England schools which are called into existence, many through voluntary efforts, take their religious tone from the localities in which they are founded, those in Ireland, which are supported chiefly by the state, should exhibit, in their mode of dealing with religion, somewhat of the comprehensive character of the source from which they derive their origin.

What the Roman Catholic prelates really desire, in appealing to the precedent of England, is to obtain all the privileges possessed by the various denominations in England, without making the sacrifices with which those privileges have been purchased. They wish to dispose of the funds of the state with as much freedom as the English enjoy in disposing of their voluntary subscriptions. Their demand is, not that they may be placed on the same footing with the English—for we have had no intimation of a desire to undertake the English share of the expense—but that they may be permitted to deal with the national funds according to their uncontrolled discretion—that they may be intrusted with prerogatives which have never yet been intrusted to any religious party, not even to the national Church.

We would recommend those who are doubtful of the capabilities of the combined system for inculcating religion, to read the reports of the various ministers attending to the spiritual wants of the Belfast Model School. The catechist of the Established Church, after stating that the bishop, in whose presence the annual examination was conducted, expressed his entire satisfaction with the proficiency of the children in the various subjects in which they were examined, goes on to say; "The Rev. Professor Reichel, who examined the senior class in the Evidences of Christianity (a subject which was entirely new to the children, not having been taught in any of the Church schools in Belfast,) has permitted me to say that he never met so good answering, in a subject of corresponding difficulty, in any school in which he had previously examined." Again the Roman Catholic clergyman says, "The progress of the children in the knowledge of their religious duties, always steady, has been, in many instances, most astonishing—a fact which I attribute partly to the very abundant time set apart for such purposes, and partly to the zealous energetic coöperation of the Catholic teachers." Lastly, the ministers of the Presbyterians say, "that the answering of the children at the examination called forth repeated expressions of admiration from the visitors present."

adaptable; while the training of teachers is conducted exclusively at the public expense. On the other hand, in England, the principal weight of the charge falls upon the local authorities and parents, and it is not until the year 1870 that the Government began to exert its influence over the whole country. The Government has since then made considerable efforts to improve the state of the instruction in this country.

X INSTRUCTION IN GERMAN.*

BY RUDOLF VON RAUMER.

PREFACE TO THE FIRST AND SECOND EDITIONS.

WHEN my father requested me to write upon the subject of instruction in German, and its history, I did not foresee the great difficulties which would stand in the way of such an undertaking. Instruction in the native language, like that in religion, is given in all grades and kinds of schools; which is alone enough to make its discussion within a limited space difficult. But there are other obstacles of a quite peculiar nature. Instruction in German deals with a subject which is constantly changing with the course of time. Not only does our knowledge of the subject change, and our mode of dealing with it, but the subject itself changes. The written German language, which is that now taught in our schools, has become what it is during the last three or four centuries; and thus the history of instruction in German can not be disjoined from that of written German. And this becomes still less possible when we consider how great and how obvious is the influence which that instruction has had upon the written German. Still, no one will expect here a comprehensive and universal history of the written German. What is required is, an account of the mutual influence of the living German language and the method in which it has been taught. The records of this influence are the works on German grammar. But as my subject is instruction in German, the discussion of language proper must occupy a subordinate place, and that of the methods used in teaching it, must become proportionately prominent. This is no easy task; both by reason of the great extent of the subject and of the small knowledge of it which I possessed. I had also to treat my subject in such a manner as to be intelligible to a reader who could not refer to the books I might quote. For a large proportion of the works to which I was obliged to refer were such as would be familiar to but few of my readers. Of the most important of these I have given the titles in full; not so much for the sake of the literary man, who could find the book in a large library from a much shorter title, as for the sake of the majority of my readers who probably may never see the book itself, and to whom the titles, as characteristic of its form and matter, will be of great value.

The kindness of friends in Berlin, Göttingen, Leipzig and Munich, has enabled me to use at Erlangen books from the libraries at those places. During a stay of several weeks at Berlin, the liberality of Chief Librarian Pertz, and the great kindness of Dr. Pinder, to whom I would offer in return my most sincere thanks, opened to me the rich treasures of the Royal Library there, notwithstanding that it was a season of vacation. Bibliographical researches, pro-

* Translated for Barnard's "American Journal of Education" from Raumer's "History of Pedagogy," 4th edition.

perly so called, were of course not within the limits of my field of labor. I trust that the close connection will be recognized that exists between the few materials of this nature which I have inserted, and the subject of the work. I have mentioned the places where I have found books not easily attainable everywhere; which will doubtless be a convenience to many persons.

The statement of my views upon the present condition of affairs has often thrown me into antagonism with very wide-spread opinions. But upon a subject so important, I have thought it my duty to state my convictions without any concealment. If any one should feel injured by anything which I have said, I desire to assure him that I have never attacked persons, but opinions only. And I think I have sufficiently demonstrated this, by sometimes most fully coinciding with the views of those whom I have in other points opposed.

I have felt obliged to refrain from entering into details, except in speaking of the common schools and the gymnasia. My reason for not entering into the question of instruction in German in the Higher Burgher Schools is, that views upon this recent and important class of institutions are still so unsettled, that it would be requisite to ascertain the general principles involved, before dealing with any single subject of instruction; a preliminary which would lead me into an entirely different field. Upon many points, the observations on the gymnasia express my views on the higher burgher schools, of course; that is, with the proper modifications. Upon other points I should have been glad to submit my opinions to some experienced judge. Such is the case especially respecting the study of the Old German; which seems to me quite as important for the higher burgher schools as for the gymnasium, though to a different extent. That is, I think that the learned education which the gymnasium gives, renders it indispensable to go back to the Gothic and Old High German; while I believe it correct to go no further, in the higher burgher schools, than the Middle High German; and that this dialect should be studied, in those schools, about in the manner and to the extent indicated in Philip Wackernagel's "*Gems of German Poetry and Wisdom*."

But I will not seek to anticipate what can only be intelligible when my whole book is read. I will conclude by expressing the wish that my work may contribute something to the promotion of a healthy sentiment of patriotism.

ERLANGEN, October 10th, 1851.

PREFACE TO THE THIRD EDITION.

The title of this edition indicates that it is "enlarged and improved." These enlargements and improvements will be found not so much in the first as in the second book of this work. There was of course an abundance of materials for the enlargement of the historical part of it. But the same reasons which induced me, in the first edition, to limit the historical portion of my work within the narrowest possible space, for fear of diminishing the intelligibility of the main portion of my discussion, have still prevented me from enlarging that part of the work. But in the second book, on the other hand, more than one passage required amplification. I hope that I have succeeded, without interfering with that brevity which the character of the work requires, in rendering many parts of it more intelligible and correct than in the previous editions.

I have already more than once said that I did not pretend to decide by my

now single authority the innumerable practical questions which this vast field includes; and that I would, on the contrary thankfully receive any intelligent advice. And I feel myself under obligations to return my sincere thanks for the profound and instructive observations which have already reached me from the most various quarters since the appearance of my previous editions; whether through public channels, by letter, or orally. Of these observations I could of course make use only so far as I found myself convinced by them. I have endeavored to "try all things;" whether I have been able to "hold fast that which is good" only, I can not say.

The mass of works on German grammar, reading, style, &c., has become an almost unbounded flood. While employed upon my first edition I examined a great number of such books; and have industriously endeavored to make myself acquainted with the best which have appeared since. But although I myself possess a respectable number of books in this department, and have also had the use of several good school libraries, I am still far from pretending to a complete knowledge of my materials. Nor do I believe that it is practicable to attain it. For it will be found no very trifling task to examine carefully even the best of the German school grammars alone; as I can testify from experience. In obtaining a general view of the subject, I have received much aid from the periodicals devoted to it; such as the "*New Year-book of Philology and Pedagogy*,"* "*Mützell's Journal of the Gymnasien*,"† the "*Gazette for the Austrian Gymnasien*,"‡ "*Herrig's Archives for the Study of the Modern Languages*,"§ and many others. But even if all this mass of materials had been gone through, would this render the student a master of them? Would not the authors of the books in question say that mere reading will not test a school-book; that nothing but practical experiment with it in a school can decide upon its value? It must be allowed that there is some truth in the claim. But the very impossibility of doing this—for who could use all the German school grammars?—shows that in order to pronounce a sound practical opinion on the subjects in question, even the most thorough apprehension of its principles will not suffice without aid from the experience of others.

I have in this edition endeavored to go somewhat more into detail on some practical points. The only difficulty in doing so is, that it is necessary to handle them in a general manner, while in practice the principles have to be applied to an infinite variety of cases. This is peculiarly true of a subject which ramifies within all the departments of life so universally as instruction in the native language. For example, what I say of German grammar in the common schools, will in practice require the most various limitations and expansions. The special purpose of each individual school must decide how much is to be done by mere practice, and how much by discussions on grammatical subjects. It must not be supposed that the mere distinction between city schools and country schools will here suffice. For the differences between different city schools are very various. Nor can any general rule on the point be applied to country schools either. In these, every thing depends on the situation and needs of each particular district. In like manner, important distinctions must be observed be-

* "*Neues Jahrbuch für Philologie und Pädagogik*."

† "*Mützell's Zeitschrift für das Gymnasialwesen*."

‡ "*Zeitschrift für die österreichischen Gymnasien*."

§ "*Herrig's Archiv für das Studium der neueren Sprache*."

tween the modes of teaching their native language to boys and to girls. All these questions I have considered from a few principal points of view, leaving their further development to the reader.

I may venture to hope that it will not be forgotten that in the second book, each chapter presupposes a knowledge of what has been said in the previous ones. Such portions, therefore, as that on the later provisions for studying German in the teachers' seminaries, and that on the higher burgher schools, ought not to be read out of their connection; for both of them presuppose a knowledge of the chapters before them.

But I must provide against an error much more important than this; for which I have given no occasion, but to which a strong tendency prevails at the present day. The German language is a subject dealt with throughout all institutions of instruction, from the lowest to the highest. It is this which makes it so important a study. But it would be an error to suppose that, because it is taught everywhere, it must be treated in the same way everywhere. The method, and also the extent, of instruction in it, must be adapted to the attainments of the scholar. This of course makes it necessary to consider what are the proper purposes of the lower, middle, and higher grades of schools; although it has been reckoned a degradation to those of the lower grade, that they have not been permitted to interfere with those departments of instruction which are appropriate to the higher. But this notion is the consequence of wrong ideas of the essential nature of real culture, and of the moral value of human employments. True culture is not to be promoted by superficial study of subjects too difficult, prematurely and at the wrong place; but by studying appropriate things in the right way. And in like manner, the dignity of the teacher does not depend upon the subject which he teaches, but upon the conscientiousness with which he teaches it. No intelligent teacher, therefore, will feel himself undervalued by a proper discussion of the question what studies are and what are not suitable to the age and the attainments of his pupils. And those very teachers whose vocation it is to labor in the very highest departments of human culture, will be most deeply penetrated with a conviction of the immeasurable importance of universal popular instruction.

I have also given special attention, in the present edition, to instruction in German at the gymnasia. The German language is the tie which connects the learned classes with the remainder of the people; and this is the reason that the mode in which it is taught at the gymnasium and the university is so important.

For the learned classes are the standard which determines the extent and method of instruction in it, in all grades of institutions. We shall always, therefore, in considering the subject find ourselves brought back to the institutions of learning, properly so called, however highly we may value the unquestionably important object of the improvement of the education of our laboring classes.

RUDOLF VON RAUMER.

ERLANGEN, March 2, 1857.

NOTE.

The relations of instruction in German to other studies has often been referred to in the previous volumes of Raumer's "*Pedagogy*;" while the nature of their contents did not permit a detailed account of the methods pursued in teaching that language; as such an account must be very closely connected with the history of German grammar. The present chapter is intended to sketch the most important points of that history.

**I. HISTORY OF GERMAN GRAMMAR, WITH REFERENCE TO SCHOOL INSTRUCTION
IN GERMAN, FROM THE END OF THE FIFTEENTH CENTURY.**

CHAPTER I.—SIXTEENTH CENTURY.

Latin and German, A. D. 1500.

The grammatical treatment of the German language did not grow up, as did that of the Greek, exclusively upon its native soil, and from native roots. As in so many other departments, the Germans have made use in that of grammar also, of the rich inheritance which they received from classical antiquity. The Greeks had discovered the grammatical categories of their language, its most important distinctions, the inflections of its words, a thousand years before the study of grammar was thought of in Germany. The discoveries of the Greeks were industriously and perseveringly applied by the Romans to their language; and thus it happened that they descended, along with the Latin language, in the grammatical writers of the perishing classical ages, to the Germanic nations.

The grammatical knowledge thus acquired, was at first, however, not used as a means of investigating the German language. The Latin grammarians were employed only in studying the Latin language. For many centuries, Latin was, in Germany, the peculiar language of members of the learned professions. First, the church took measures to make Latin, already the language of religion, of the Vulgate, and of the Romish See, that also of the whole clergy.* And when the use of the vulgar tongue began to force itself more and more into religious affairs, the learned men endeavored in their turn to extend the domain of the language of ancient Latium, and to exclude the vulgar tongue, if possible, from the sphere of higher education. This second period of the universal authority of the Latin coincides with the beginning of the modern era of German grammar.† The rise and progress of the latter during the sixteenth century can not therefore be understood without a previous view of the Latin learning of that period.‡

It was the openly expressed intention of the schoolmen of that

* See R. von Raumer, "Influence of Christianity on the Old High German" (*Einwirkung des Christenthums auf die Althochdeutsche Sprache*), Stuttgart, 1845, p. 201.

† I do not here delay to refer to the labors bestowed on the German language at an earlier period, especially by Abbot Notker of St. Gall, who died about A. D. 1022.

‡ The reader may find in the first volume of this history, especially in the chapter upon Johannes Sturm, a clear account of the Latin school instruction of the sixteenth century.

day, entirely to exclude the German language from the schools and from learning. They meant Latin to be the only received language of schools, if possible even in the very lowest classes. But since, to the great disgust of many excellent rectors of schools, the children had some intercourse with the world, not in the school, but at home, they continued as before to learn their native language first. And in order to make them understand it was necessary to degrade one's self to the point of talking German with them. The strenuous endeavors of many teachers to drive German out of even the lower classes, while the German children kept coming into them all the time, reminds us of the countryman in Horace, waiting on the bank of the river until it shall run down; "*at ille labitur, et labetur in omne volubilis ævum.*"

However great the care taken to make school-boys disuse as quickly as possible the despised and hated German, still new pupils must first be furnished with the Latin phrases most necessary for ordinary conversation. A clear conception of the mode in which this was done may be gathered from the elementary school books of the end of the fifteenth century. A volume in the Scheurl library at Nuremberg contains several such books. One of them is entitled "*A Method of Latinity (Modus Latinitatis).*" It has at the end this colophon: "The end of a new grammar, adapting in the most elegant manner the Latin equivalents to the vulgar tongue; with various selections (*flosculis*) of words and sentences, and important differences of idiom (*differentiis notatu dignis*). Put forth by that venerable and acute man Udalric Ebrardt. Anno 1488."* The author evidently addresses boys already able to speak Latin; for he begins by saying to the boys that his design is to correct for them, who seem almost rather infants without speech, than competent to talk, the very vulgar barbarisms which he hears them using in their ordinary familiar conversation; such as saying *mulus* (a barbarous Latinized form of the old *mûl*, modern German *maul*, mouth) for *os*, and so on. But at the same time he deals with his subject so as to make the book useful to the teacher, as well as to the tyro. The work is not really a grammar, but a German-Latin phrase book, with the German forms first, and the Latin equivalents following. At the beginning are the simplest salutations: "Good day. *Bona dies*. Or perhaps more elegantly, *Bonus dies*. For, &c. Good evening. *Bonum sero*. Or rather, more elegantly, *Bonum vesper*. For, &c."† "Your very best

* The date is given in words, followed by "Praise to the most merciful God (*Laus Deo clementissimo*)."

† I can not bestow much space on this material, and therefore only add in passing that the

health. *Salus plurima.*" And so on. Then come the simplest questions and answers: "How old are you?" &c., proceeding to more extended phrases, but still such as are used in common conversation. In a second part, the author arranges phrases of a higher grade, classified by their meaning, in thirteen parts, the German, as before, standing first, and the Latin after it. For instance: "Virgil is not comparable to Homer. *Virgilius cum homero non comparandus est. Non puto homero poete huic clarissimo virgilium parem esse, etc.;*" and so on, down to the colophon already given.

The volume in the Scheurl library contains several such books. One, beginning "*Ad patrem*, to the father," consists of examples on the Latin prepositions, with the German words printed over the Latin. One is entitled "*Small grammar for the instruction of the young, with a German translation.*"* Notwithstanding its title, however, this is still not a grammar, but, as more correctly designated in the second title, "Tract called *grammatellus*, containing facetious sayings, and by reason of the obtuseness of young pupils (*ob scolasticorumque hebetatem*) put beneath a German translation." Another work in the same volume, entitled "*Kudiments of grammar for boys. Most carefully selected from Remigius, Donatus and Alexander,*"† is without any German translation; and another, called "*Juvenile exercises on Donatus,*"‡ contains but a few German words.

I have enumerated more in detail the contents of this collected volume, because it gives us so very satisfactory an account of the literary helps by means of which its first owner, the celebrated Christoph Scheurl, (born 1481,) when a boy, exchanged his native German for the Latin. The next step to these books was, the insertion in the Latin Grammars proper, of an interlinear German version. This also became the practice during the fifteenth century; when it became usual to print, above the very much altered text of Donatus,§ a *verbatim* German translation.]

author however makes a defence for his *Bonum aere*. And compare on this point Rudolf Agricola, in this History, Vol. I., p. 82, (of the German).

* *Grammatellus pro iuuenum eruditione cum glosa almanica.*

† *Kudimenta grammaticæ ad pueros. De Remigio Donato Alexandroque studiosissime lecta.*

‡ *Puerilia super donatum. Nürnberg Per Marcum ayser.*

§ Compare the text of "*Donatus' Latin Grammar (Donati ars grammatica)*" in Lindemann's "*Collection of Latin Grammars (Corpus Grammaticorum Latinorum)*," Leipzig, 1831, with that even of the Donatus of Glareanus, Augsburg, 1547 or 1550.

† Panzer (*Annales typographici*), enumerates four such Donatuses, with a German translation, viz.—1. Ulm, 1497. (*Annales*, iii, 540.) 2. Without place, by J. S., 1497. (*Ann.*, iv, 67.) 3. *Per Fridr. Kreussner Nurnbergæ inestum*. Without date. (*Ann.*, iv, 388.) 4. Without place or date. (*Ann.*, iv, 123.) But numbers 1 and 2, seem to be the same. A rare little book which W. Grimm loaned me from his private library, indicates that this mode of printing a German interlinear version over the Latin text of Donatus was long practiced.

But the distance was greater, from such an interlinear version as this, merely intended to render the text of the Latin grammarians more comprehensible, to an intelligent use of the German mother tongue, with the design of making the Latin Grammar itself better understood. The first step in this direction was taken by Aventinus, in his Latin Grammar; a work which is for this reason often mentioned as the first instance of a German grammar.* The celebrated Bavarian historical writer, Johannes Thurnmeyer, surnamed Aventinus from Abensberg in Bavaria, his birthplace (b. 1466, d. 1534), was in 1512 appointed tutor of the Bavarian princes Ludwig and Ernst, brothers of Duke Wilhelm IV. A thorough scholar, yet a zealous lover of his native country, he had no hesitation in introducing the German language even into the instruction which he gave in Latin Grammar. He had observed, as he himself says,† that a single German word will often make clear to a beginner, what the Latin circumlocutions only made more and more obscure. Under this method, his noble pupils had learned as much of the Latin Grammar in eight months, as they could otherwise scarcely have gained in three years. Still, he felt obliged to make some excuses for his undertaking, when he published his Grammar, with German text intermingled with the Latin. He says in his preface, "I did not feel ashamed to make use of the vernacular tongue, since I had seen the same thing done by the most learned of the Italians;" and he then goes on to allege the practical reasons already alluded to. Thus Aventinus was the first of the humanists of Germany who dared do thus; or at any rate, if he had any predecessors, he was unconscious of it, or he would not have thus relied upon the example of the Italians. It is a noticeable fact that in this particular also it was the Italians who gave an impulse to the Germans. What were the Latin-Italian grammars which Aventinus had in view, we may learn from a work of the kind published in Venice, A. D. 1499, of which a copy exists in the Scheurl library at Nuremberg.‡ The mixture of Italian with the Latin Grammar in this instance, is about half-way between that of the actual inter-

* This is "*The Elements of Ælius Donatus, after the text of Henricus Glareanus; with a German translation (Ælii Donati elementa, ad collationem Henrici Glareani, una cum translatione Germanica)*." M. D. L. At the end it has, "*Augustae Vindeicorum, in aedibus Valentini Othmari, excusum mense Martio, Anno M.D.XLVII.*"

† Thus, in the very full list of Modern High German Grammars, by H. Hoffmann, in "*The German Philology (Die Deutsche Philologie)*," Breslau, 1856. p. 138.

‡ Aventinus' "*Grammar (Grammatik)*," (published 1512.) p. 2.

§ Beginning: "*I am the door for the ignorant (Janua sum rudibus)*." Ending: "*Impressum Venetiis, impensis Joannis Baptistae de Sessa Mediolanensis. Anno salutis nostrae. M.CCCCXCLX. Die vero. XX Julii. Feliciter.*" This is in a bound volume, which begins with the "*Quarto Sic Uno Libro*" &c.; an Italian-German "*Vocabulista*."

linear version, and the circumspect use made of the German by Aventinus.

The Latin Grammar of Aventinus appeared at Augsburg in 1512, with the title, "*New rudimentary grammar, most useful to the young,*" &c.* Its arrangement is, in general, similar to that of the editions of Donatus then in common use. The text proper is Latin. The following examples may show how far, nevertheless, this work of Aventinus included a beginning of the grammatical treatment of the vernacular. Thus, on p. 3, we have, "*Dictio. A word. Illa dictio est nomen cui in nostra lingua potest addi a, ut homo, a man. equus, a horse.*" And p. 38, "*De verbo. Illa dictio est verbum cui in nostra lingua potest addi, I, thou, he.*" This is in truth a very trifling beginning; and far the greater part of the German matter contained in the work of Aventinus, consists merely in German translations of the Latin examples. But the grammar of Aventinus was nevertheless entitled to a place, even in this brief sketch, because he was the first who made use of German for the explanation of the Latin grammar.

The German Orthographists.

The books thus far referred to relate primarily to Latin, and used the German for explaining that language. These constitute one of the sources to which we must look for information relating to the original beginnings of a German grammar. The other of these sources consists of a class of books which are in a certain sense quite opposite in character to them; namely, the introductions to the reading and writing of German, intended for pupils unacquainted with Latin. This class of books includes two varieties. Those of one were intended as an introduction to German written composition. After a few rules and observations on orthography and grammar, they pass on to formulas for letters, legal contracts, addresses, and titles. Those of the other class originated in the necessity for acquainting the uneducated laity with German books; and in particular with the German Bible. Among books of the first description, should first of all be named the work of Fabian Frangk, entitled "*The method and qualities of the German tongue. Orthography, or the right way to spell in German. New Chancery, or current practical and correct directory for properly preparing formal communications and letters to all persons. In the most condensed form. M [agister] Fabian Frangk.*"† The work appeared at Frankfurt on the Maine in

* "*Grammatica noua fundamentalis iuuenibus utilissima*" &c.

† "*Teutscher Sprach Art und Eygenschaft. Orthographia, Gerecht Buchstaebig* (in the original with the e over the u, the over the a, &c.) *Teutsch zuschreiben. New*

1531;* and deserves attention for more than one reason. The author was from Asslaw in Silesia; a Master of Arts (*Freier Kunste Magister*); and a burgher of Buntzlau. Frangk's preface describes the scope of his work. His primary object, he says, is to provide that those who employ such persons as have mastered his work and who are employed in writing, chancery business, and writing titles, shall meet with no disappointment." But although this comparatively subordinate object was that chiefly contemplated by the author, he still urges that at some time or other an actual exclusive German grammar should be written, as has been done for the Greek, Latin, and other languages. For, he says, "our own noble tongue is as agreeable, useful and powerful, in proportion to its extent, as any other whatever;" and there are "among us unlearned laics, (neither practiced in the learned tongues nor acquainted with them), who place as high a value upon it as upon any other."

XI. LEGAL PROVISION

RESPECTING THE

EDUCATION, IMPROVEMENT, AND SUPPORT OF TEACHERS IN PRUSSIA.

The following are the provisions of the law of 1819 respecting Normal Schools and teachers. It is difficult to describe the well-qualified teacher in more appropriate language :

"In order that a master may be enabled to fulfill the duties of his station, he ought to be religious, wise, and alive to the high importance of his profession. He ought thoroughly to understand the duties of his station, to have acquired the art of teaching and managing youth, to be firm in his fidelity to the state, conscientious in the discharge of his duties, friendly and prudent in his relations with the parents of his children, and with his fellow-citizens in general ; finally, he ought to inspire all around him with a lively interest in the progress of the school, and to render them favorably inclined to second his own wishes and endeavors."

In order to insure the education of such schoolmasters, the following regulations are laid down :

"Each department is required to have a number of young men well prepared for their duties, who may supply the yearly vacancies in the ranks of the schoolmasters of the department, and therefore each department shall be required to support a Normal School. These establishments shall be formed on the basis of the following regulations :

1. No Normal School for teachers in the primary schools shall admit more than seventy pupil teachers.

2. In every department where the numbers of Catholics and Protestants are about equal, there shall be, as often as circumstances will permit, a Normal School for the members of each sect. But where there is a very marked inequality in the numbers of the two sects, the masters of the least numerous sect shall be obtained from the Normal Schools belonging to that sect in a neighboring department, or by smaller establishments in the same department annexed to an elementary primary school. Normal Schools for simultaneous education of two sects shall be permitted when the pupil teachers can obtain close at hand suitable religious instruction, each in the doctrines of his own church.

3. The Normal Schools shall be established whenever it is possible in small towns, so as to preserve the pupil teachers from the dissipation, temptations, and habits of life which are not suitable to their future profession, without subjecting them to a monastic seclusion ; but the town ought not to be too small, in order that they may profit by the vicinity of several elementary and superior primary schools.

6. No young man can be received into a Normal School who has not passed through a course of instruction in an elementary primary school ; nor can any young man be received, of the excellence of whose moral character there is the least ground of suspicion. The age of admission into the Normal Schools shall be from sixteen to eighteen years.

7. As to the methods of instruction, directors of the Normal Schools shall rather seek to conduct the pupil teachers by their own experience to simple and clear principles, than to give them theories for their guidance ; and with this end in view, primary schools shall be joined to all the

Normal Schools, where the pupil teachers may be practised in the art of teaching.

8. In each Normal School the course of instruction shall last three years, of which the first shall be devoted to the continuation of the course of instruction which the pupils commenced in the primary schools; the second to an instruction of a still higher character, and the third to practice in the primary school attached to the establishment. For those who are sufficiently advanced when they enter not to require the first year's instruction, the course may be reduced to one of two years.

10. In each Normal School particular funds, set apart for that purpose, shall be devoted to the support of young men of good character not able to pay for themselves, but in such a manner as not to habituate them to too many comforts, and not to render them unfit for the worst paid situations in the primary schools.

11. Every pupil who receives such assistance from a Normal School, is obliged at the end of his educational course to accept the place which the provincial consistories assign him; a prospect of advancement, however, must always be held out to him in case of perseverance and good conduct.

12. The provincial consistories have the immediate surveillance of all the Normal Schools in the different departments of their respective provinces; and the provincial ecclesiastical authorities have the especial surveillance of the religious instruction of their respective sects."

The following provisions, gathered from the law of 1819, and from the general regulations, have an important bearing on the social and pecuniary condition of the teacher.

No young man is allowed to conduct a primary school until he has obtained a certificate of his capacity to fulfill the important duties of a schoolmaster. The examinations of the candidates for these certificates is conducted by commissions, composed of two laymen and two clergymen, or two priests. The provincial consistories nominate the lay members, the ecclesiastical authorities of the respective provinces nominate the clerical members for the examination of the religious education of the Protestant candidates; and the Roman Catholic bishop nominates the two priests who examine the Roman Catholic candidates.

The members of these commissions are nominated for three years, and they can afterward be continued in their office if advisable.

The lay examiners and the clerical examiners join in granting the certificates, but the religious and secular examinations are conducted separately. The certificates are signed also by the director of the Normal School in which the young man has been educated, and describe his moral character and his intellectual capability.

These certificates are not valid until they have been ratified by the superior authorities, that is, by the provincial consistories; and in the case of the certificates granted to the Roman Catholics, the further ratification of the bishop is necessary. If the provincial consistories and the bishops can not agree about the granting of any certificate, the matter is referred to the minister of public instruction, who decides between them. The provincial authorities can re-examine the candidates, if they think there is any reason to doubt what is specified on the certificate granted by the committee of examination, and can declare them incapable, and can require the local authorities to proceed to another examination if they are not satisfied with the character of any of the candidates.

The young women who are candidates for the situations of school-mistresses are obliged to submit to the same kind of examination before they can obtain the certificate enabling them to take the charge of a girls' school.

The election and nomination of masters for the communal schools, is the duty of the local committees, on the presentation of the communal inspectors.

The masters can not be installed and begin to receive their salaries, until their certificates have been ratified by the provincial authorities.

"The provincial consistories are required to choose able and zealous clerical inspectors, and to engage them to form and direct great associations between the masters of the town and rural schools, for the purpose of fostering among them a feeling of interest in their profession, of furthering the further development of their education by regular reunions, by consultations, conversations, practical treatises, study of particular branches of instruction, and discussions on treatises read aloud in their public assemblies."

These teachers' conferences are very useful. They not only promote a spirit of generous emulation among the schoolmasters, and so stimulate them to further exertions, but they encourage the masters, by reminding them that they form part of a great and honorable body. And nothing encourages man more than a feeling of association. Man alone is weak and timid; but let him only feel that his feelings and aims are those of a number who regard him as their fellow, and he then is a giant in his aims and efforts.

The provincial consistories have the power of sending the master of a primary school, who appears to be in need of further instruction, to a Normal School, for the time that may appear requisite to give him the necessary additional instruction; during his absence his place is supplied by a young man from the Normal School, who receives a temporary certificate.

The expenses of the conferences and of the masters who frequent for a second time the Normal Schools, are generally defrayed by the provincial educational authorities.

The schoolmasters are encouraged to continue their own education by hopes of preferment to better situations, or to superior schools; but before they can attain this preferment, they must pass a second examination, conducted by the same authorities who conducted the former.

If a schoolmaster is negligent or conducts himself improperly in his station, the inspector of the school first remonstrates with him, and if this fails to convince him, the inspector of the canton reproves him; and if he still prove refractory, they report him to the provincial authorities, who have the power of fining him, or of removing him from the school.

If he commits any flagrant crime, he is reported at once to the provincial authorities, who remove him immediately, after having carefully verified the accusations brought against him by the inspectors.

Every school in a village or town must have a garden suitable to the nature of the country and habits of the people, for a kitchen-garden, nursery-orchard, or the raising of bees. This is provided as an additional resource for the teacher, as well as an available means of instruction of the scholars.

Every school-house must not only embrace what we regard as essential features in such structures, such as size, location, ventilation, warmth, seats and desks, &c., but apparatus for illustrating every study, and "a sufficient collection of books for the use of the master," as well as a residence for him.

Whenever a new fund, legacy, or donation, accrues to the schools of a province or commune, the same must be appropriated to the improvement of the school, or of the master's income, and not to the diminution of any tax or rate before collected.

The practice of "boarding round," or the right of the teacher to a place at the table of every family in the commune or district in rotation

(called in German, *Wandeltisch*, movable table,) formerly prevailed in Prussia, but it was first arrested by an ordinance in 1811, directing that this "movable table" should not be reckoned in payment of the teacher's compensation, and should be given up at the option of the teacher. It is now abandoned in every commune which makes any pretension to civilization. It never included any thing beyond an "itinerating table." The teacher always had a fixed residence provided, and usually under the same roof with his school.

Scholars are encouraged to form among themselves a fund, by voluntary contributions, for the assistance of their necessitous schoolfellows. The fund is managed by themselves under the direction of their teacher. This is done to cultivate good feeling in the school, and save the teacher from a constant tax for articles for such pupils.

All school fees, all contributions or assessments in money, fuel, &c., must be collected by the regular school authorities, and not by the teacher. And no service can be required of the teacher in or about the school, and he can engage in no employment, which will lower his dignity, or weaken his influence.

All public teachers are regarded as public functionaries, and are exempt from liability to military service in time of peace, and from all local and capitation taxes, or if taxed, an equivalent is allowed in an increase of salary.

Whenever any division of land belonging to a parish, or town, is made, a sufficient quantity shall be allotted to the schoolmaster for a vegetable garden, and for the feed of a cow. Wherever the right of common exists, the teacher shall share in its benefits.

Schoolmasters who become temporarily infirm, are entitled to an allowance from the school moneys provided for the support of their schools. And when permanently disabled, are entitled to an annual allowance from the income of funds provided in each province for this purpose, and for the support of the widows and children of teachers, who entitle themselves to such provision for their families, by a small annual contribution from their salaries.

Teachers, who show themselves entitled to promotion to the direction of Normal Schools, are enabled to travel both in Prussia, and other countries, for the purpose of extending their knowledge of the organization, instruction and discipline of schools.

A valuable ordinance passed in 1826, and renewed in 1846, requires the director of a seminary to travel about, once a year, and visit a certain part of the schools within his circuit. He makes himself acquainted with the state of the school, listens to the instruction given, takes part himself in the same, and gives to the teacher such hints for improvement as his observation may suggest. The results of his yearly visits he presents, in the form of a report, to the school authorities of the province. This occasional visitation is very useful in clearing up the dark corners of the land, correcting abuses, and giving an impulse, from time to time, to teachers, who might otherwise sink into apathy and neglect. To render the efficacy of the seminaries more complete, it is provided that at the end of three years after leaving the seminary, the young teachers shall return to pass a second examination.

By an ordinance in 1826, it is provided: "To the end, that the beneficial influence of the seminary may extend itself to those teachers already established, who either require further instruction, or who in their own cultivation and skill in office do not advance, perhaps even recede; it is required that such teachers be recalled into the seminary for a shorter or longer time, as may be needful for them, in order, either to pass through a whole methodical course, or to practice themselves in particular departments of instruction."

That the foregoing excellent and thorough regulations have not remained a dead letter in the ordinances of the government, but are substantially followed in the practical operations of the system, will be made evident from the testimony of Mr. Kay, an intelligent English traveler, as to the education, social position, and professional standing of the primary school teachers of Prussia, as well as from the accounts which follow of several of the best normal schools in different departments of the kingdom:

During my travels in different provinces of Prussia, I was in daily communication with the teachers. I had every opportunity of observing the spirit, which animated the whole body, and of hearing the opinions of the poor respecting them. I found a great body of educated, courteous, refined, moral, and learned professors, laboring with real enthusiasm among the poorest classes of their countrymen. I found them wholly devoted to their duties, proud of their profession, united together by a strong feeling of brotherhood, and holding continual conferences together, for the purposes of debating all kinds of questions, relating to the management of their schools. But what gave me greater pleasure than all else was, to observe in what esteem and respect they were held by the peasants. If you tempt a Prussian peasant to find fault with the schools, he will tell you, in answer, how good the school is, and how learned the teachers are. I often heard the warmest panegyrics bestowed upon them by the peasants, showing in the clearest manner how well their merits and their labors were appreciated.*

I could not but feel, how grand an institution this great body of more than 28,000 teachers was, and how much it was capable of effecting; and, when I regarded the happy condition of the Prussian peasantry, I could not but believe, I saw some of the fruits of the daily labors of this enlightened, respected, and united brotherhood.

Upon the parochial ministers and parochial teachers depend, far more than we are willing to allow the intelligence, the morality, and the religion of the people. The cordial co-operation of these two important and honorable professions is necessary to the moral progress of a nation. The religious minister acts upon the adults, the teacher on the young. The co-operation of the religious ministers is necessary to secure the success of the teacher's efforts; and, on the other hand, without the earnest aid of the teacher, the fairest hopes of the religious minister are often blighted in the bud.

We must educate the child, if we would reform the man. But, alas! this education is a labor, requiring a long, persevering, careful, intelligent, and most tender handling. It were much better left alone, than to be attempted, so as to create disgust, or to embitter early associations, or to render virtuous and ennobling pursuits disgusting throughout after-life. On the teacher depends the training of the poor man's child, for poor parents have, unhappily, too little spare time to allow them to perform the greatest duty of a parent. And thus, as the character of every nation mainly depends upon the training of the children, we may safely affirm, that, such as our teachers are, such also will be our peasantry.

How essential is it, then, to the moral welfare, and therefore to the political greatness of a nation, that the profession of the teachers should be one, insuring the perfect satisfaction of its members, and commanding the respect of the country!

The teacher's station in society ought to be an honorable one, or few learned and able men will be found willing to remain long in the profession, even if any such men can be induced to enter it; and it is much better to be without teachers altogether, than to leave the training of our children to men of narrow minds, unrestrained passions, or meagre intelligence. The Prussian government has fully

* Since these remarks were written, the course of public events in Prussia has given a very remarkable proof of their correctness. To the National Assembly, which met in Berlin in May, 1848, the people of the provinces elected no fewer than eight teachers as representatives; giving this striking proof of the people's respect for the ability and high character of the profession.

recognized these truths, and has, therefore, done all within its power, to raise the character and social position of the teachers as much as possible. As these efforts have been heartily seconded by the provincial governments and the people, the result has been most remarkable and satisfactory.

The first exertions of the government were wholly devoted to the improvement of the intellectual and moral character of the profession, and to the increase of its numbers. They determined to make the name of "teacher" an honor, and in itself a guarantee to every parent of the character and attainments of the man who bore it. To attain this end, they denied all access to the ranks of the profession to any but those who proved themselves worthy of admittance. No person can be a teacher in Prussia, or in any part of Germany, France Austria, Switzerland, or Holland, until he has passed a very severe and searching examination, and until he has produced testimonials from those well acquainted with him, of the irreproachable nature of his moral life and character. This examination, which includes both intellectual and moral qualifications, is conducted by able and impartial men, among whom are to be found the candidate's religious minister, the professors of the normal college at which he was brought up, and at least one of the educational magistrates of the county of which he is a native. He who passes the ordeal is allowed to be a teacher, whether he was educated at a normal college or not. The ranks of the profession are open to all educated and moral men, wherever or however they were educated; but educated and moral they must prove themselves. It is not, then, to be wondered at, that the men, who are known to have satisfactorily passed this scrutiny, are regarded by all their fellow-countrymen with respect and consideration, and as men of great learning and of high character.

This once attained, the next great efforts of the government were directed to the improvement of the social position of the teachers. The government placed them under the immediate protection of the county courts. They also made a law that no teacher, who had been once elected, whether by a parochial committee, or by trustees, or by private patrons, should be dismissed, except by permission of the county magistrates. This protected the teachers from the effects of the mere personal prejudices of those in immediate connection with them. They then defined the *minimum* of the teachers' salaries, and this *minimum* they have ever since been steadily increasing.

It is absolutely necessary, that my readers should not connect their preconceived notions of an English village schoolmaster with the learned and refined teacher of Prussia. They might just as well think of comparing the position and attainments of the vast majority of our teachers with those of the scholars of our universities, as of comparing those of our schoolmasters with those of the Prussian teachers. I felt, whenever I was in the company of a Prussian teacher, that I was with a gentleman, whose courteous bearing and intelligent manner of speaking must exert a most beneficial influence upon the peasantry, among whom whom he lived. It was, as if I saw one of the best of our English curates performing the duties of a schoolmaster. I never saw any vulgarity or coarseness, and still less any stupidity or incapacity for their duties, displayed by any of them.

The Protestant teachers of Germany occupy situations of importance in connection with the religious ministers and religious congregations. They fulfill several of the duties of our curates, clerks, and organists. In both Romanist and Protestant congregations, they lead the choir and play the organ. They act, too, as clerk; and when a Protestant minister is indisposed, and unable to conduct public worship, the parochial teacher officiates in his stead, reads the church service, and sometimes also preaches. The musical part of public worship, in both Romanist and Protestant churches and chapels, is always directed by the parochial teacher. The small salary, which they receive for the performance of these duties, serves to increase their incomes; but what is of much more importance is, that this connection of the teachers with the religious congregations and ministers serves to bind the religious ministers and teachers together, to lessen the labors of each by mutual assistance, and, above all, to raise the teacher in the estimation of the poor, by whom he is surrounded, and thereby materially to increase the effect of his advice and instructions.

It was very curious, and pleasing, to observe the effects of the intercourse of

this enlightened and excellent body of men with the peasantry during the last twenty years. I do not hesitate to say, that, at the period of my visit to Prussia, I had never before seen so polite and civilized, and seemingly intelligent, a peasantry as that of Prussia. Were a stranger introduced into some of the lowest schools, I am quite convinced he would not believe he saw peasants' children before him. They were generally so clean and neatly dressed, and their manners were always so good, that I was several times obliged to ask the teachers, if I really saw the children of the poor before me. The appearance of the girls was particularly gratifying; their dress was so respectable, their manners was so good, their way of dressing their hair showed so much taste, and their cleanliness was so great, that no one, who had not been informed beforehand to what class they belonged, would have believed them to be the children of the poorest of the people. The lowest orders of Germany are so much more refined than our poor, that the children of the rich very often attend the primary schools, while the children of the trades people and middle classes almost invariably do so. The richer parents know that their children will not come into contact with any coarseness, and that the teacher is certain to be an educated and refined gentleman. This mingling of the children of the higher and lower orders tends to civilize the peasantry still more, and to produce a kindly feeling between the different ranks of society. But the primary cause of the great and ever-increasing civilization of the Prussian peasantry is, undeniably, their contact with their refined and intelligent teachers. For, whilst the clergy are laboring among the adults, the teachers are daily bringing under the influences of their own high characters and intelligence ALL the younger portions of the community.

The teachers in Prussia are men respected by the whole community, men to whom all classes owe the first rudiments of their education, and men in whose welfare, good character, and high respectability, both the government and the people feel themselves deeply interested. In birth, early recollections, and associations, they are often peasants; but in education and position they are *gentlemen* in every sense of that term, and acknowledged officers of the county governments. There are more than 28,000 such teachers in Prussia. This great profession offers, as I shall presently show, a means, by which an intelligent peasant may hope to raise himself into the higher ranks of society, as the expenses of preparing for admission into the profession are borne by government. But, as the number of candidates for admission is consequently always large, the government takes every possible precaution, that only such shall be chosen, as are in every respect qualified to reflect honor upon the profession, and carry out its objects in the most effective manner. And so well satisfied are the teachers with their position, that, although their pay is often but poor, yet it rarely happens that any one quits his profession to seek another situation. They are contented with their profession, even when it affords only a bare living, as it always confers a station of respectability and honor, in direct communication with the provincial governments. I made the most careful inquiries upon this subject, and can speak with great confidence upon it. I was in daily communication with the teachers from the day I entered Prussia, and I tested the truth of what they told me, not only by comparing their statements together, but also by many inquiries, which I made of the educational counsellors and government officers in Berlin. Next to Dr. Bruggeman, one of the head counsellors of the Minister of Education, the gentlemen to whom I am most indebted for information on this subject are Counsellor Stiehl, the Chief Inspector of Prussia, who is employed by the Minister on particular missions of inspection in all the provinces of Prussia; Professor Hintz, one of the young professors in Dr. Diesterweg's normal college; Dr. Hennicke, the director of the normal college at Weissenfels; Herr Peters, a teacher at Bonn; one of the teachers at Cologne; several of the teachers at Berlin; and several of the teachers at Elberfeld. From these gentlemen, and many others, I gathered the following information: When a boy is intended for the teachers' profession, he remains in the primary school, until he has completed the whole course of primary instruction, i. e. until he has learned to write and read well, and until he knows the principal rules of arithmetic, the outlines of the geography and history of his native country, a little natural history, and the Scripture history. This knowledge he does not generally acquire before he is fifteen years of age.

From the age of fifteen to the age of eighteen, before which latter age a young man can not be admitted into any normal college, the education of young candidates, who are the sons of towns-people, is different to the education of those, who are the sons of country people.

The young candidates for admission into the teachers' profession, who are the sons of towns-people, enter at fifteen into the classes of the *superior public schools* of the town, in which schools a number of endowed places are always reserved for poor boys, who have distinguished themselves in the primary schools. The education given in these schools is of a higher character, than that given in the *primary schools*. It comprehends mathematics, and the rudiments at least of the classics, besides lectures in history, physical geography, and drawing. They remain in these *superior public schools* until their eighteenth year, when they can seek admission into a normal college. The young candidates for admission into the teachers' profession, who are the sons of poor country people, do not enjoy all the advantages which the children of towns-people possess, as there is seldom a superior primary school in their neighborhood, in which they can continue their studies, after leaving the primary school. If the son of a peasant aspires to enter the teachers' profession; after leaving the primary school, he engages the parochial teacher to give him instruction in the evenings, attends the teachers' classes in the mornings and afternoons, and assists him in the management of the younger children. He continues to improve himself in this manner, until he has attained the age, at which he can apply for admission into a normal college.

There are, however, a great many schools in Prussia, established for the purpose of preparing the sons of the peasants for admission into the normal colleges. These preparatory schools generally belong to private persons. Every young person admitted into them is obliged to pay a small fee for his education there. This fee is generally very trifling, but is still sufficient to prevent the sons of the poorest peasants entering them; and, consequently, these latter, if they live in a country village, are obliged to content themselves with the evening lessons given by the village teacher, and with the practical knowledge gained by attending his classes in the mornings and afternoons. But it is always possible for the peasants' children, with industry, to prepare themselves, by the aid of the village teacher, for admission into a normal college. Of these latter admirable institutions for the education of teachers I shall hereafter speak at length; suffice it here to say, that there are between forty and fifty of them in Prussia, supported entirely by the state, and under the direction and surveillance of the provincial committees called *Schulcollegium*. There are five or six normal colleges in each province, some of which are set apart for the education of the Romanist, and the others for that of the Protestant teachers. Each of them is generally put under the direction of a priest or of a protestant minister, according as it is intended for the education of Romanist or Protestant teachers, and is provided in the most liberal manner, with every thing necessary for the education of the young students. The education given in them is nearly gratuitous; no young man being called upon to pay for any thing, but his clothes and his breakfast, whilst, in many cases, even this trifling charge is paid for the poor student out of the college funds.

All young men who aspire to the office of teacher in Prussia, and who aspire to enter a normal college, when the yearly vacancies take place, are obliged to submit to an examination, conducted by the professors of these colleges, in presence of the educational counsellors from the county court. No young man can enter the examination lists, who has not produced certificates of health, and freedom from all chronic complaints, or who has a weak voice or any physical defect or infirmity. None but picked men are selected as teachers in Prussia. The examination is very severe and searching. For, as there are always a great number of candidates for admission into each college, and as the favored candidates are only chosen, on account of their superior abilities, the competition at the entrance examinations is very great.

The subjects of this examination are, reading, writing, arithmetic, geography, history, singing, chanting, and the Scripture history.

The young man, who has just obtained admission into a normal college in Prussia, and whose education as a teacher has only just begun, is much better educated, even at the commencement of his three years' education in the college,

than almost any of our teachers are, when they enter upon the performance of their duties in the schools, and when their education is considered to be completed! How much superior, therefore, in intellectual acquirements, the Prussian teacher is, when he has completed his collegiate course, I need not observe. When the examination is concluded, as many of the most promising of the candidates are selected as there are vacancies in the college; and, after a strict examination has been made into their characters and previous life, each successful candidate is required to sign an agreement, promising to officiate as a teacher, after leaving the college, for a number of years, equal to those during which the government educates him gratuitously in the college. They are then admitted, and are only required to provide themselves with clothes, and to pay about 3*l.* per annum. All the other expenses of their education, maintenance, &c., are, as I have said before, borne by the state. They remain in these colleges two or three years, never less than two, or more than three. Here they continue the studies which they had previously followed in the primary and superior schools. They perfect themselves in writing, arithmetic, history, geography, and Scripture history, and receive a careful education in the physical sciences, and particularly in mathematics and botany. In some of the normal colleges, the young men also study Latin and the modern languages. Besides this, they *all* learn the violin, the organ, and piano-forte. I have seen as many as a hundred violins, three organs, and three piano-fortes in one normal college. They also continue the practice of chanting and singing, which they had commenced in the village schools; and when the college is situated in the country, and intended for village teachers, the students learn gardening and agriculture. I became acquainted in Bonn, with the teacher of the *poorest* school in the town. He could speak French very tolerably, as well as a little English; he was acquainted with many of our first writers, and knew the rudiments of the Latin language, in addition to the necessary attainments of a teacher.

But the government and the people are not satisfied that, because a teacher has passed through one of these training establishments, he is therefore fit to undertake the management of a village school. Far from it. When the normal college course is finished, the young aspirants are obliged to submit to another examination, which is conducted by the professors of the college in the presence of a counsellor from the provincial schulcollegium, the educational counsellor of the county court, and a delegate from the Roman Catholic bishop, or Protestant superintendent of the county, according as the school is for Romanist or for Protestant students. These different personages *ought* to be present, but I was assured that, in general, only the educational counsellor of the county court assisted at the examination. At its conclusion, if the directors and professors have been satisfied with the conduct of the young men, during their residence in the college, and have no reason to doubt the excellence of their moral character, and the orthodoxy of their religious belief, the young candidates receive diplomas marked according to the manner in which they acquitted themselves in the examination, "1," "2," or "3," and signed by the director and professors, and by the members of the provincial schulcollegium.

Those who obtain the diplomas marked "1," are legally authorized to officiate as teachers, without further scrutiny, but those who only obtain those marked "2" or "3," are only appointed to schools for two or three years on trial, and at the end of that time, are obliged to return to the normal college and undergo another examination.

It is not, however, *necessary* that a young man should pass through a normal college, in order to obtain a diploma enabling him to officiate as teacher. Any person, who has received so good an education as to enable him to pass the examination at a normal college, can obtain one, if his character is unimpeachable. By far the greatest proportion, however, of the teachers of Prussia are educated in the normal colleges. When they have obtained these diplomas, the county courts present them to such school committees as require teachers; and if these parochial committees are satisfied with them, they are elected. In such a numerous body as that of the Prussian teachers, there are always numerous vacancies. The number of colleges and students are so arranged, as to regularly supply that, which is found to be the average number of yearly vacancies.

The candidates who have obtained only the diplomas marked "2," or "3," hold their offices, as I have said, only provisionally; and, in order to be definitely appointed, are obliged, at the termination of their specified period of trial, either to obtain the approval of the local inspector, or to undergo another examination; and I was assured, that they are sometimes obliged to return three or four times to be examined, ere they can obtain a definite appointment; such care does the country take, that none but fit persons shall occupy this responsible position. When he is once appointed, however, the teacher is thenceforward a county and not a parochial officer. No person or set of persons in *immediate* connection with him can turn him out of his situation, without having first obtained the sanction of the county magistrates. After the parochial ministers and householders have once elected him, they have no power to deprive him of his salary or his situation. No one but the county magistrates of the union inspector, who, by living at a distance, are not likely to be affected by personal prejudices or parochial disputes, can interfere directly with the teacher, and should the latter deem the interference of even the inspector uncalled for, he can always appeal to the superior authorities, or even to the minister of education himself. The parochial committees have, however, the power of complaining of the teacher to the county magistrates, if they think he is acting unwisely or immorally; and such complaints always receive immediate and special attention. When any such complaints are made, the county court dispatches an inspector to examine into the matter, and empowers him, if he thinks the teacher worthy of censure, fine, or expulsion, to act accordingly. If, however, the teacher is not blameable, the inspector explains the matter to the parochial authorities, and effects a reconciliation between the parties. If the inspector should deem the teacher worthy of punishment, and this latter should be dissatisfied with the sentence, he can carry the matter before a justice of the peace; and if he is not satisfied with his decision, he can appeal to the provincial scholcollegium, thence to the minister of instruction, and thence, if he desires, to the king himself; of so much importance does the Prussian government deem it, to protect the teachers, and to raise their office in public opinion. I have mentioned that a Prussian teacher seldom leaves his profession; but that many change their positions. When a good and well paid situation falls vacant in any parish, an experienced teacher, who already occupies some worse paid situation in another parish, and who has obtained credit for his excellent school-management, is preferred by the school committee to the young adepts fresh from the normal colleges. On this account, the young men generally commence with an inferior position, and earn better ones, according as they manage the first they entered. It is evident, how important a regulation this is, as the teachers of the poorest schools are saved from becoming listless and dispirited, and are rendered earnest and industrious, in the hopes of bettering their situation. The country is, however, gradually improving the salaries of all the teachers. No village or town is ever allowed to *lessen* the amount it has once given to a teacher. What it has once given, it is obliged to continue to give in future. It may increase it as much as it likes, and the county courts have the power of interfering, and saying, "You have hitherto paid your teachers too little; you must augment the teacher's salary." This is only done, however, when it is known, that the parish or town is capable of increasing the school salaries and is unwilling to do so.

The importance of enabling the teachers to command the respect of the people, of rendering them independent of those in immediate connection with them, and of protecting them from ignorant interference and mere personal animosity, is so fully recognized in Prussia, that even when the school is endowed, and managed by trustees, these trustees, after having once elected a teacher, are not permitted to dismiss him, unless they can prove to the county court that they have sufficient cause for complaint. The teacher, elected by trustees, has the privilege of appealing to the minister of education in Berlin, against the act of the trustees and county magistrates, just as well as all the other teachers of Prussia.

The reasons which have induced the Prussian government to render the teachers, after their election, so independent of those in immediate connection with them appear to have been—

1st. Because the teachers of Prussia are a very learned body, and, from their long study of pedagogy, have acquired greater ability than any persons in the art

of teaching. They are, therefore, better qualified than any other persons to conduct the instruction of their children; but, if those persons who have never studied pedagogy could interfere with them, and say, "You shall teach it in this way or in that, or else leave the parish," the teachers would often be obliged to pursue some ridiculous, inefficient method, merely to please the whims of persons not experienced in school management, and the enlightenment of the people would thus be often considerably retarded.

2d. Because, if the parishioners or the parochial ministers had a right to turn away a teacher, whenever he chanced to displease them, the teachers would always be liable to, and would often suffer from, foolish personal dislikes, founded on no good ground. They would thus lose their independence of character, by being forced to suit their conduct to the whims of those around them, instead of being able to act faithfully and conscientiously to all; or by being exposed to the insults or impertinence of ignorant persons, who did not understand and appreciate the value and importance of their labors; or by being prevented from acting faithfully toward the children, from fear of offending the parents; or by being forced to cringe to and flatter the ignorance, and even the vices, of those around them, instead of being able to combat them; and they would thus generally, by one or other of these ways, forfeit at least some part of the respect of the parents of their children, and would, consequently, find their lessons and advice robbed of one-half their weight, and their labors of a great part of their efficiency.

For these reasons, the Prussian government endeavors to give as much liberty as possible to the teachers, and to fetter their hands as little as possible. In the normal colleges they receive instruction in the different methods of teaching; and, out of these, each teacher is at liberty to follow whichever seems to him the best calculated to promote the growth of the intelligence of his scholars. It is felt, that without this liberty, a teacher would often work unwillingly, and that a discontented or unwilling teacher is worse than none at all. In the choice of their books and apparatus, the teachers are allowed an almost equal freedom. If a teacher finds a book, which he thinks better calculated for instruction, than the one he has been in the habit of using, he sends it through the inspector to the educational counsellor of the county court, who forward it to the *schulcollegium* for approval; and, as soon as this is obtained, the teacher can introduce it into his school. There are, already, a great many books in each province, which have been thus sanctioned; and out of these, every teacher in the province can choose whichever pleases him most. These school-books are, generally, written by teachers; and, from what I saw of them, they seemed to evince a profound knowledge of the science of pedagogy. Until a book has been thus sanctioned by the *schulcollegium*, which has the management of the normal colleges and gymnasia of its province, it can not be introduced into a parochial school.

The teachers are not assisted by monitors in Germany, as in Switzerland, France, and England; and this I think a very great error. I have often been in schools in Prussia, where the teacher had about one hundred children of different degrees of proficiency to instruct in the same class-room, without any assistance whatever: the consequence was, that while he was teaching one class, the others were in disorder, and making noise enough to distract the attention of the children, who were receiving instruction, as well as that of the teacher, who was giving it; while the teacher, instead of being able to devote his time to the higher branches of instruction, and to the children, who more particularly needed his care, was obliged to divide it among all, and to superintend himself the very lowest branches of instruction; and this, too, at the sacrifice of the order and quiet of his school. When I represented this to the teachers, I was always answered, "Yes, that is true; but then we think, that a young monitor is unable to educate the minds of the children under his care, and is consequently likely to do them much injury." This is, no doubt, the result, if the teachers leave the education of any of his children *entirely* to monitors; but he has no need to do this; he ought to employ his monitors merely in superintending the more mechanical parts of instruction, such as writing, and learning the alphabet, and also in preserving order; he might then himself conduct the *mental* education of all the children. But this they will not do in Prussia; they are so afraid of injuring the mental culture of the children, that they positively throw away a very important

means for the attainment of this end. In Switzerland, a very different course is pursued; the teachers are assisted in keeping order, and in teaching the more mechanical parts of instruction, by monitors, chosen from among their most advanced pupils. These monitors remain with the teacher, until they are of sufficient age to go to a normal college; they are paid, I believe, by the parishes, and are instructed by the teachers in the evenings. From among them, the young candidates for the vacant places in the normal colleges are chosen; so that the Swiss teachers have often been engaged in schools, and in school management, from their earliest years. Besides this advantage, the country is spared a great expense; for in Prussia, where they have no monitors, they are obliged to augment the number of their teachers very considerably; and I have found in a small school, which could have been very easily managed by one teacher and some well trained monitors, as many as three teachers, for each of whom good salaries had to be provided, as well as houses and gardens. Doubtless, it is much better to have experienced teachers, than young monitors; and hence it is that the town schools in Prussia are very much better than those of other countries, as the town committees can afford to engage a sufficient number of teachers; but in the poor country parishes this is not the case, and there it is, where the want of monitors is most severely felt, as a large school is often left entirely to the unaided care of a single teacher. But this very defect in the Prussian system arises from the great anxiety of the educational authorities, that the religious and moral education of the young should not suffer. Still I think it is a very great mistake; and I am sure that many schools I saw in Prussia suffer grievously from this regulation.

But it will be asked, how are the salaries of the teachers provided, and what is their amount? The regulations on this subject are particularly deserving of attention. The Prussian government clearly saw, that nothing could tend more strongly to nullify their efforts to raise the teachers' profession in the eyes of the people, than to leave the salaries of the teachers dependent, either on uncertain payments, or on private benevolence. To have done so would have been to destroy the independence of the profession.

The Prussian government, therefore, decreed that, however small and from whatever source the teacher's salary should be derived, its amount should always be fixed before his appointment, and that the payment should be certain and regular.

As I mentioned before, each succeeding teacher must be paid, at least, as much as his predecessor received. The county magistrates have the power of obliging each town or parish to increase the amount of the salaries of their teachers, whenever they think the town or parish is paying too little, and can afford to pay more. These salaries are now wholly paid by the school or town committees, from the funds raised by local taxation. Before the late law, which made education gratuitous, they were derived, in part, from the school fees. But the amount of the salary did not, in any case, depend on that of the fees, nor was the teacher ever placed in the invidious position of being obliged himself to collect these monthly payments. They were always collected by a tax-gatherer, appointed by the village or town magistrate; and when they did not amount to the fixed salary, which the school committee had agreed to pay to the teacher, they were increased by a parochial rate, levied on the householders. In many cases, however, the schools are endowed, and for admission into these, no school fees were ever required. But where fees were required, and where a parent was too poor to pay them, the parochial or town authorities were always obliged, by law, to pay them for him. The following are the regulations, which define the minimum of the salaries of the Prussians.

Some of the country schools have each as many as three teachers; but the number of teachers in a country school in Prussia does not, generally, exceed two; and in many of these schools, there is only one teacher. Where there are several, one is the head master, and the others are his assistants. The laws relating to their payment are as follows:

"The first teacher in a country school, or, if there be only one, then the single teacher shall receive, as his yearly salary and the perquisites of his office, at least:

1st. Free lodging.

2d. The necessary fuel for the warming of the school-room, and of his own dwelling-house and for his household economy.

3d. A piece of land, as near as possible to the school, of from one to three Prussian acres large; the tillage and manuring of which are to be done at the expense of the parish.

4th. A kitchen garden behind his house, of not less than half a Prussian acre.

5th. The necessary building for his little farming operations.

6th. Free summer pasture for at least two cows.

7th. Twelve bushels of rye meal, two cart-loads of hay, and two cart-loads of straw.

8th. 7*l.* 10*s.* in money." [It must be remembered that 7*l.* 10*s.* in Prussia, is worth about as much as 12*l.*, (\$60,) in England, and that this is only the sum which has been fixed by law as the *legal minimum*, and by no means gives an idea of the amount of salaries paid to the Prussian teachers.]

"If the field, garden, or summer pasture for his cows can not be provided by the parish, the county court must determine what equivalent in money must be given him.

The second, third, &c., teacher in a country school must receive—

1st. Free lodging.

2d. The fuel necessary for warming his house.

3d. 9*l.* in money, (or about 15*l.* in English value.)

The teachers of the towns must receive—

1st. Free lodging and fuel.

2d. The first teacher should receive at least 40*l.* per annum, and the other teachers at least 30*l.* per annum," in English values.

I found these regulations among some educational laws issued by the government in 1845, for one of the provinces; but Dr. Bruggeman assured me, that similar laws were in operation for the whole of Prussia. The above emoluments are the lowest the teachers can receive according to law. The government is about to raise this *minimum* considerably, and to increase the salaries throughout Prussia. Hitherto many have been paid but poorly; very few, however, have deserted their profession, or engaged in other occupations, as they are generally proud of their position, and satisfied with it.

Herr Peters, a teacher of a primary school in Bonn, with whom I spent some time, said to me, one day, "The Prussian teachers do not receive high salaries; but," he added, with emphasis, "however little the salary of a teacher may be above the legal minimum, it is certain, and collected for him by the parochial authorities, without his having to trouble himself about it." The law, as I have mentioned, is very strict in requiring the payments of the salaries to be made with the utmost regularity.

It is easy to see how invaluable, for any country, a great privileged class, like that of the Prussian teachers, must be, especially when many of its members are, as in Prussia, chosen by the state from amongst the most highly gifted of the peasant class, and educated at the expense of the country. It is, in fact, for modern Prussia, just what the Roman Catholic Church was, for Europe in the middle ages; it is a ladder, by which all the genius of the lowest orders may ascend into a suitable field of action. A young peasant boy of promising abilities pushed on by the restless spirit, which so often characterizes youth of real genius, and anxious to better his position in the world, or to gain some sphere of action more congenial to his taste, than the farm-yard, or the workshop, finds in Prussia, the teacher's career open to him. If he can only distinguish himself in his village school, and pass the entrance examination of a normal college, he gains a high education at no expense, and is then sure (if he conducts himself well, and distinguishes himself in the normal college) to obtain a teacher's place, to put himself in immediate connection with the government, and to gain a very honorable situation, affording him the amplest field for the development and exercise of his talents. A clever peasant in Prussia, instead of becoming a Chartist, enters a normal college, and becomes a teacher. There is no need for a young peasant to despond in Prussia, and say, "Here I am, endowed with talents fitting me for another sphere, but shut out by doors, which can only be opened with a golden key." Far otherwise. Free places are retained in the gymnasia for poor boys, who wish to continue their studies; and from these colleges they can enter either into the ranks of the Protestant or Romanist clergy,

or into those of the teachers; and, in the last case, without having any thing to pay for their education. It is easy to comprehend, how this tends to allay political strife and discontent. In our country, this is often occasioned; or, at least, increased, by some one or two clever individuals, who find themselves confined within a sphere, too narrow for their talents and energies, and who, by their own restless murmurs, arouse the dormant passions of their neighbors. The German governments have been wiser in their day than our freer countries. They have separated the fiery spirits from the easily excited masses, and converted them into earnest, active, and indefatigable fosterers of the public morality, and into guardians of the common weal.

In considering the salaries and privileges of the teachers, it must also be borne in mind, that they are exempt from taxation, and that they are free from all obligation to serve in the army, and to attend the yearly military exercises.

On the installation of a new teacher, the parochial or school authorities are obliged, either to send conveyances for the transport of his family and goods, or to pay the expenses of such transport, for any distance less than fifty English miles. But, if the teacher leaves his situation before the expiration of five years, he is obliged to repay to the local authorities the expenses of this conveyance.

Whenever a new teacher is introduced into a parochial school, his installation is a public ceremony, at which all the parochial authorities assist, in order to impress the people with a sense of the importance of his office and his duties, and to encourage among them a respect for him, without which his hopes of success in his labors must be necessarily very small.

The ceremony of installation generally takes place in the parochial church, where the new teacher is presented, by the religious minister, to the civil authorities, and to the inhabitants of the parish. The children, whose education he has to conduct, are always present at the ceremony.

The Prussian government feels that, unless it can render the profession honorable and worthy of men of high characters and attainments, all its attempts to raise the religious and moral tone of the education of the people will be ever unavailing.

I have not hitherto mentioned Prussian schoolmistresses, because there are but few; and because the regulations, with respect to their education, examination, and appointment, are precisely similar to those relating to schoolmasters. Among the Protestants of Prussia there are scarcely any schoolmistresses; the greatest part of the Prussian female teachers are Romanists, and for their education there are several normal colleges established in the Romanist provinces of Prussia. I inquired of the Romanist counsellor in the Bureau of Public Instruction in Berlin, whether it was not found difficult to retain the female teachers long at their posts, on account of their making such eligible wives, even for the farmers. But he assured me, that this was not the case, as far as their female teachers were concerned, as they form among themselves a body like the order of the Sisters of Charity, with this distinction, that instead of actually taking a solemn public vow of celibacy, it is generally understood among them, that they shall not marry, but shall devote themselves, during the remainder of their lives, to the duties of school management and instruction. In this respect the Romanists have a great advantage over the Protestants; for I found, in the Protestant cantons of Switzerland, just the same objection to the employment of female teachers, as that which is experienced among the Protestants of Prussia and of England, viz., that a young woman, who has been carefully trained in a good normal college, until she is twenty years of age, makes so good a wife for men, even in the middle classes of society, that she always marries, soon after leaving the college; and, consequently, that a much greater supply of students and colleges are required, in order to supply the constant vacancies, which occur in the ranks, and that the expenses of educating a sufficient number of female teachers are, therefore, too great in general to be supported, unless the students pay for their own education, which very few of the young women, who are desirous of being teachers, are able to do.

In the Romanist cantons of Switzerland, the Sisters of Charity conduct the education of the girls; and their schools are the best and most pleasing female schools I have ever seen. Herr Stiehl, one of the Protestant educational coun-

sellors and chief inspector of Prussia, confirmed all that the Catholic minister had told me, and stated that, for the reasons above mentioned, the Prussian Protestants found it impossible to keep the female teachers long in their situations; and that the expense of constantly educating fresh female teachers, to supply the places of those who married, was too great to be borne. The Prussians, however, in general, prefer male teachers for the girls, *even where they can obtain female*; so that in nearly all the schools I visited, I found schoolmasters, and not schoolmistresses, instructing the girls' classes.

The Prussians would ridicule the idea of confiding the education of the girls to uneducated mistresses, such as those in our dame, and in most of our female schools. They can not conceive the case of a parent, who would be willing to commit his child to the care of a person, who had not been educated, most carefully and religiously, in that most difficult of all arts, the art of teaching. They think, that a teacher *must* either improve and elevate the minds of his children, or else injure and debase them. They believe, that there is no such thing as being able to come into daily contact with a child, without doing him either good or harm. The Prussians know, that the minds of the young are never stationary, but always in progress; and that this progress is always either a moral or an immoral one, either forward or backward; and hence the *extraordinary* expenditure the country is bearing, and the *extraordinary* pains it is taking, to support and improve its training establishments for teachers.

In order to increase the feeling of union and brotherhood, which already exists in a high degree among the Prussian teachers, and in order to encourage them to renewed exertions, and to diminish as much as possible, the feeling of isolation which must always exist, in some degree, where an educated man finds himself placed in a solitary country parish, surrounded by peasantry less cultivated than himself, and cut off from the literary society, to which he had been accustomed at the normal college, the government promotes the frequent holding of teachers' conferences, for the purpose of mutual improvement and encouragement. These conferences are held very often, over the whole of Germany, Switzerland, France, and Holland, and the benefits resulting from them are very great indeed. In Prussia, there are three kinds of such conferences, of which I shall now give a short account. The first is that of the province. In several of the provinces of Prussia, all the teachers, both Catholic and Protestant, assemble once a year, in some town, which has been agreed upon at their last meeting, and on a predetermined day. The duration of the meeting is different in different parts; sometimes only for one, and sometimes for several days. Their objects, too, are different. Sometimes it is for mutual instruction, whilst at others it is for pleasure. But, whatever be the *nominal* purpose of their assembling, the real end of it is, to produce the feeling of association and brotherhood, which is one of the strongest encouragements to isolated and single efforts.

Besides these yearly provincial assemblies, there is also another meeting of teachers held monthly in every kreis or union. The principal ecclesiastical authority or school-inspector of the union summons and presides over it. This meeting is more especially intended for the purposes of instruction, than that of the province. It lasts only one day; the teachers meet early in the morning, and disperse again in the evening. They dine together at noon, and spend the morning and afternoon in conferences and mutual improvement. They assemble at some town or village in the union on an appointed day, of which the union inspector gives them each notice some weeks beforehand. In the morning, they all meet in one of the schools, or in some great room of the town. A class of children, taken from one of the schools of the town, is assembled there. One of the teachers, generally one of the younger ones, is chosen by his companions to give these children a lesson, on some subject of instruction in the primary schools. The teacher who is selected, gives the lesson before all the others assembled at the conference. When the lesson is ended, the children are dismissed, and the remaining teachers then begin to criticise the manner, in which the instruction was given, and each shows, how he thinks it might have been improved; and then a debate ensues on the merits of different methods of teaching and of different plans of school management.

This plan of debating at the conferences, on methods of instruction, makes the

teachers think, and stimulates them to inquire, how they can impart instruction in the most efficient manner. It makes them also eager to improve their manner of teaching; as each one fears to exhibit any ignorance of his profession, or any unskillfulness before his professional brethren, and desires to win their applause by his ability; and it makes them properly attentive to all the minutiae of their profession, as well as to the more interesting studies connected with it.

I was present at one of these teachers' conferences. It was attended not only by the teachers from the primary schools, but also by professors from the superior schools and colleges, and was presided over by the director of a normal college. I do not think the importance of these meetings can be exaggerated. They are not only, as I have before said, a great encouragement to the isolated teachers; but they are a continual source of instruction and improvement to all in their most important duties. The teachers continue at these meetings the instruction they commenced at the normal colleges; they discuss all the new school-books that have appeared, all the new regulations that have been issued, all the new plans that have been tried; and they inform one another of the progress of their different districts. In France and South Germany, they have so strongly felt the importance of these meetings, that the expenses of the teachers in traveling to them are borne by the government; and in Holland and the Duchy of Baden, the government inspectors assist at them, and join in the debates. In some parts of Switzerland, also, they are very well organized; and in the canton of Neuchâtel, I remember to have read a number of a very interesting periodical, which was published after each conference, and which contained several most instructive and very able papers, which had been read at the previous meeting of the village school professors.

Besides those conferences, which I have already mentioned, there is still another kind, which is held in Prussia. This is when a parish is very large, and contains several schools and many teachers. In such cases, the chief ecclesiastical authority summons a meeting of all the parochial teachers once a month, for purposes of mutual instruction, similar to the meetings in the unions. Sometimes the clergyman himself gives them a lecture on religious instruction, and, at other times, they debate among themselves on questions of pedagogy, or criticise one another's methods of teaching; but in all cases the object of the meetings is the same, viz., mutual encouragement and improvement. As the religious ministers preside at these parochial and union conferences, they have an opportunity of addressing the teachers on their religious duties, and of giving them advice and instruction respecting the true end they ought to keep in view in their school lessons, and on the care they ought to take to keep this end constantly in sight.

The ministers also give the teachers advice and counsel respecting the manner, in which their religious lesson ought to be given, in order the more strongly to impress the minds of their scholars with the serious import of the truths of the Scriptures; and they have the opportunity of reminding the younger teachers of the particular parts of the Scripture, which they ought more particularly to lay before the different classes of their children, and of the method of religious instruction which they ought to pursue. But it is impossible to detail all the great and obvious advantages, which result from these meetings of the clergy and the school professors, or to enumerate the different subjects of reflection, debate, and conversation, which are started and discussed at them. They are the supplements, so to speak, of the normal colleges, and serve, in an admirable manner, to carry forward the education, which the young aspirants to the teachers' profession commenced at these institutions, and to continually revive through after-life the knowledge imparted in them.

I have now shown how the government provides for the education, appointment, payment, protection, encouragement, and continual improvement of the teachers.

It remains for me to show, how the Prussian government secures the teacher from all fear of being disabled, by sickness or old age, from pursuing his labors or providing for his family. It would be a great disgrace for a profession, such as that of the Prussian teachers, were the fate of a superannuated teacher to be the same as in our country; where there is in general no other refuge for such a person, than the workhouse or the hospital. Doubtless, if Prussia did not feel

more interested than we do, in the protection of this most important class of public servants, it would not care what became of them, when they were too old or too weak to attend the schools. But Prussia fully appreciates the value of the labors of her teachers, and has a sincere respect for them, and a lively concern in their welfare. The government has felt, that to cast off and forsake all the old and faithful teachers, when they could work no longer, would be to disgust the whole body, to break off the sympathies which unite them to their profession, and to shut out of it many noble spirits. It has, therefore, most carefully guarded against these results, by the regulations, which I shall now proceed to describe.

If a teacher, who has been definitely appointed, becomes unable to fulfill the duties of his station, either through the utter breaking up of his health, or by old age, the authorities who appointed him, whether they were the county court, the town school commission, or the parochial school committee, are obliged to pension him for the remainder of his life.

This pension must, according to law, amount to at least one-third of his former income. Whether the committee settles more than this upon a teacher or not, depends upon the manner in which he has labored, whilst he was yet able to do so, and upon the resources which the committee finds at its disposal. When, however, the teacher is not so far incapacitated for exertion as to be unable to do any thing, but only so far as to require assistance, the local committee or county court is not *allowed* to dismiss him on a pension, but is required to provide him an assistant, who must be chosen from among the young men, who have been educated in the normal colleges, and who have obtained certificates of qualification for their duties.

If the school, to which a teacher has been appointed, is supported by or belongs to a landed proprietor, this latter is obliged to pension the teacher, when incapacitated for his duties by illness or old age; and if the school is one of royal foundation, the court of the county, in which it is situated, must pension him. The Prussian government, although professedly a military state, has shown itself *at least as deeply* interested in the welfare of its teachers, as in that of its soldiers, whilst we, who disown the appellation of a military people, take greater care of our soldiers than of our teachers.

Besides the provisions for the pensioning of the superannuated teachers, there is another law in force in Prussia, which relates to the future provision of the widows and orphans of deceased schoolmasters, and which is deserving of equal praise.

In each union a society is formed, of which the principal ecclesiastical authority in the union is the president, the object of which is to provide for the support of the widows and orphans of deceased teachers. The regulations of these societies differ a little, I believe, in the different provinces; but it will not be necessary here to examine them so minutely, as to show what is peculiar to each. I shall only attempt to give a brief sketch of them, as I have collected it from the laws, which have been framed for some of the eastern counties of Prussia, and which I have now before me.

Every definitely appointed teacher, whether in town or country, must become a member of the society established in his union, for the assistance of the widows and orphans of deceased teachers.

Every teacher must pay a small entrance fee on his becoming a member, and afterward a small yearly sum. The amounts of these sums are in all cases confined within certain limits, and can neither fall below nor rise above them. On the amount of the yearly subscription paid by the teacher depends the value of the pension, which his widow or children will be entitled to receive, after his death, from the director of the union society. There are generally three different pensions, varying in value, for either of which the teacher may subscribe at his own discretion, but for one of which he must pay his annual subscription. If he pay to the first and best, his widow or children will receive the greatest pension given by the society, and this is always very much more than the interest of his money, calculated on life averages, would have entitled him to receive, as the societies are not commercial enterprises, but charitable institutions. To enable the societies, therefore, to meet the calls upon their treasures, it is often neces-

nary, that they should be assisted in some extraordinary manner; and this is done by collections made in the union churches by the ecclesiastical superintendent, and by assistance granted by the county courts. When a teacher dies, however soon it may be after his having commenced his subscription, leaving a wife or children to young to support themselves, they receive the pension for which their father had subscribed. The wife continues to receive it for life, and the children until they are old enough to earn their own subsistence, or until they attain the age of fourteen years; for before this time they are not generally able to leave the parochial schools and commence labor. If he leaves several children, the pension is paid, until the youngest attains this age. But if the widow marries again, she loses her pension, as it is supposed, that her second husband is able to support her.

By these means, the Prussian teacher is freed from all anxiety, about the fate of his family after his death, and is less tempted than he would be, if their after maintenance depended upon his own small savings, to divert his mind from his important duties, by the desire of making a provision, sufficient to support them, if he were to die before they were able to support themselves. Besides these great advantages, the regulations, which I have described, tend to raise the profession in the estimation of the poor, who thus see, that the government considers not only the teachers themselves, but that their wives and families also, are deserving of its especial protection. They also render the situation of a teacher more desirable for literary and clever young men, who find it an honorable station suited to their tastes, and freed from those anxieties, against which a literary man is often the least fitted to contend.

There is still another cause, which contributes, in a very powerful manner, to foster the feeling of brotherhood between the Prussian teachers. I refer to the teachers' journals.

These journals are periodicals, which appear weekly or monthly, and contain all the latest news and statistics, of the progress of education in all the countries of the world; original articles on different questions relating to the general management of schools, and the different methods of instruction; accounts of particular schools distinguished by some particular excellence or other; biographies of distinguished teachers and professors; and reviews of all the latest works on pedagogy.

They are published for the whole of Germany and Switzerland; and their articles are contributed by inspectors, teachers, and professors from all parts of Germany. The stimulus they give to education is almost incalculable. By their means, all the most recent improvements in pedagogy are rapidly disseminated; the efforts of the most able teachers are published; the labors, the plans, and the success of particular teachers are described; the character of all the new laws and regulations is discussed and explained; the honors and rewards bestowed on eminent and successful teachers and friends of education are made known; and in this way, a feeling of generous emulation is excited among all the members of this great body, spread as it is over the Austrian empire, Bavaria, Wirtemberg, Baden, the German dukedoms, Saxony, Prussia, Hanover, and the German cantons of Switzerland, which an Englishman would find it difficult to conceive. Each teacher, who takes in one of these journals, is reminded of the greatness of the brotherhood, of which he is a member; he is told by its pages, that over the vast and well-loved Germany, all the members of this brotherhood are laboring as himself, each in his respective locality; that their efforts are not without success, and not without the sympathy of their country; that he himself participates in this sympathy, and is an object of interest to the whole of Germany; and when he lays his paper down, after its perusal, it is with a feeling of pride in his profession, of exultation in the thought of his labors, and of confidence in his ultimate success.

That the teachers are deeply interested in their profession, no one can doubt, who has had an opportunity of observing how the German press is teeming with works on pedagogy, published by and intended expressly for the teachers.

I happened to be in Leipzig, during the great fair of 1846, at which time all the new books, which had appeared in Germany within the past year were exhibited; and I was very much astonished, at the great number of works on

pedagogy, which had appeared in that year. There were treatises on different questions relating to the management of schools and the instruction of the young; accounts of particular schools in different parts of Germany; obituaries of eminent teachers and professors, who had ceased their labors in this world; biographies of others still engaged in their important avocations; and all kinds of school books properly so called. The tables of the publishers were literally covered with books issued expressly for the schools and teachers, and generally written by members of the profession.

This shows, also, how much is being done at the present time in Germany to improve the science of pedagogy.

Having thus described the character and social position of the great profession of Prussian teachers, I shall now show what education the law requires each of them to have received, before it allows him to engage in the work of instruction; for it must be remembered, that no person, whether he be a foreigner or a native, is allowed to act as a teacher of any public or private school in the kingdom of Prussia, until he has passed a very rigid examination in all the subjects of school instruction, and has obtained a diploma from his examiners, stating that he is fit to be a teacher.

In each of the different provinces of Prussia the government has established five or six great colleges, intended expressly for the education of the teachers. Each county possesses at least one, nearly all have two of them. They are all endowed, partly by the state and partly by private benefactors. The education given in them is perfectly gratuitous; at least one-half of the cost of boarding each student is borne by the state, or defrayed out of the funds of the college, on the most liberal scale; and every thing is provided, which can possibly contribute to the perfection of the training and education of the students.

No attempt has been made to give the education of the teachers any political bias. The normal colleges are widely dispersed throughout the country. They are situated close to the homes of the students, and at great distances from the center of government; so that the patriotic sentiments naturally resulting from the humble origin of the young teachers are not weakened; nor are their local sympathies ever interrupted by the young men being removed, during the period of their education, into a distant and uncongenial political atmosphere. Neither does the government undertake the actual direction of these great and important establishments. Each of them, with only two or three exceptions, is put under the care of a religious minister of the sect, for the education of whose teachers it is destined.

In each province, there are, as I have before stated, five or six of these institutions. In each county, there are generally two. If the inhabitants of a county are composed of Romanists and Protestants in pretty equal proportions, one of these colleges is devoted to the education of the Romanist teachers, the other to that of the Protestant. If nearly all the inhabitants of a county are of one faith, both of the normal colleges are devoted to the education of the teachers of this faith; and the teachers of the minority are educated in one of the colleges of a neighboring county. There are only two normal colleges in Prussia, where Romanist and Protestant teachers are professedly educated together. The directors of these great institutions are chosen from among the clergy. The director of a Romanist college is chosen by the Romanist bishop of the province, in which the college is situated; and the director of a Protestant college is chosen by the ecclesiastical authorities of the province, in which the college is situated; subject, however, in both cases, to the approbation of the Minister of Education in Berlin, who has the power of objecting, if an unsuitable or injudicious choice is made.

The normal colleges are thus put under the supervision of the religious bodies. The government itself directs their management. It recognizes the importance of these colleges having a decidedly religious character; and, at the same time, of the education given in them being of the most liberal kind. On the one hand, therefore, it intrusts the direction of them to the clergy; and, on the other hand, it reserves the right of examining them, so as to have the power of interfering, in case the *secular* education of the students should be injudiciously curtailed. The director of each college appoints all the professors and teachers. The religious ministers have, therefore, a considerable share of the direction of these

institutions. Their character is decidedly religious, and a union between the clergy and the teachers is effected, which is productive of the best possible results.

The students remain in these colleges about three years. They live in the institution. Almost the whole of the expenses of their education, and of their board, are paid out of the funds of the college.

If a young man wishes to enter into one of these normal colleges, he need not travel far from home. Within a day's journey of his own village, is to be found one of the normal colleges of his country. If he is able to pass the preparatory examination, and to procure carefully attested certificates of character, he is received as an inmate of the college on a vacancy occurring. During the time of his sojourn there, and during the continuance of his arduous studies, he is in constant communication with all his old associates and friends, and constantly revisits the scenes of his boyhood. His sympathies with his people are thus preserved intact. None of his old connections with his village are broken; he remains the son, the brother, and the companion of the peasants. His life in the normal college is very simple and laborious; the change from its arduous discipline and duties, to those of a village teacher, is a change for the better. The teacher is not rendered discontented with his simple village life, by being pampered in the college; the laborious and self-denying discipline of the college teaches him, how to combine the simplicity of the peasant, with the learning of the scholar. It is the design of these Prussian colleges to send forth simple-minded, industrious, religious, and highly educated peasant teachers; and not affected pedagogues, or mere conceited and discontented gentlemen. Nobly, most nobly, have they fulfilled their mission! Prussia may well be proud of her 30,000 teachers.

Each one in his village, and in his district, is laboring among the poor, not so much to teach them their A, B, C, and mere school-room learning, as to enable them to think; to show them the present, as well as the future advantages of manly virtue, and to explain to them, how much their own prosperity in life depends upon their own exertions. This is education.

Oh! if we could once be taught to recognize the vast benefits, which education must confer upon the people, if we could once be taught to understand, the meaning of the term, and the nature of the undertaking, it would not be long, ere each one of our counties would possess its two normal colleges, and each one of our villages its educated teachers and its school. We have the power, but not the will. We do not understand the vast importance of education to the people.

It has been said, by persons desirous of screening our own shameful neglect of the people's education, by the abuse of the great efforts of our neighbors, that the teachers of Prussia have been, in reality, nothing more than the paid servants of an absolute power, intended to prepare the minds of the people to passive submission to a despotic government. Nothing can be more shamefully and ignorantly false than this assertion.

I have a right to speak on this subject, as I have seen more, perhaps, of the Prussian teachers, than any of my countrymen; and of this I am certain, that the sympathies of the Prussian teachers have always been notoriously with the people, and not with the government. The Prussian government has always, in fact, bitterly complained of the too liberal spirit which actuates the teacher's profession, but without effect; the body is popular in its origin, its position, its education, and its sympathies. Many of the warmest friends of constitutional progress in Prussia have always been found among the teachers; and, it is a fact, well worthy of consideration, that liberal and constitutional ideas never made so rapid a progress in Prussia, at any period of its history, as they have done since the establishment of the present system of education. I believe, that the teachers and the schools of Prussia have been the means of awakening in that country that spirit of inquiry and that love of freedom, which forced the government to grant a *bona fide* constitution to the country.

An evidence of the free spirit, which has pervaded the Prussian teachers, may be derived from the fact, that the Prussian government found itself compelled, in 1831, to address a circular order to the teachers, in which, after reciting that the government had been informed, that some of the teachers had converted their

class-rooms into political lecture rooms, and had selected the political topics of the day as the subject of remark, if not of instruction, it prohibited such subjects being introduced into the lessons by the teachers, and ordered the inspectors to prevent the teachers perverting their schools to such objects as these.

The very fact, that such a prohibition was found necessary, proves that my own observations were correct. If further proof were needed, it might be told, that the people have elected many teachers as their representatives in the different Diets; thus proving their esteem and respect for the able instructors of their children.

As nearly all the expenses of the young teacher's education in the normal colleges, are borne by the country at large, and not by himself, it has been thought advisable to require some kind of guarantee, that those, who are educated in the colleges, will really, when their education is completed, labor as teachers in the village schools, and not merely use their college education as a preparation for other more lucrative situations.

In order, therefore, to secure an adequate return for the expenditure of the country, it has been decreed by the government:

"1st. That every young man, who is received into a normal college, shall bind himself, by an agreement, to remain for three years, after leaving the college, at the disposition of the government; and during such three years, to take any situation, which the authorities of the district, in which the normal college is situated, should offer him, or to which they should wish to translate him.

"2d. That if he does not comply with this condition as soon as required to do so, he shall repay to the normal college the cost of the education and maintenance, which had been gratuitously given to him."

Every year, at a fixed period, of which public notice has been previously given in the local papers, the directors and professors of each of the normal colleges hold a public meeting, at which the magistrates of the county and the religious ministers are present, for the purpose of examining all young men, who are desirous of obtaining admission into the normal college for the purpose of being educated as teachers.

These examinations are open to all young men, even of the poorest classes, many of whom enter the lists, as almost all the expenses of the collegiate course are, as I have said, borne by the state, or defrayed out of the funds of the college.

Every competitor at one of these examinations must forward to the director of the college, a fortnight before the examination takes place—

1. A certificate signed by his religious minister, and certifying that his character and past life have been moral and blameless.
2. A certificate from a physician, certifying his freedom from chronic complaints, and the soundness of his constitution and health.
3. A certificate of his having been vaccinated within the last two years.
4. A certificate of his baptism, (if a Christian.)
5. A certificate, signed by two or more teachers, of his previous industrious and moral habits, and sufficient abilities for the teacher's profession.

On the day appointed, all the young candidates, who have complied with the preceding regulations, and who have attained the age of seventeen, are examined at the college, in the presence of the county magistrates, and of the religious ministers, by the directors and professors of the college, in all the subjects of instruction given in the highest classes of the primary schools; i. e.,

Biblical history.
The history of Christianity,
Luther's catechism,
Writing.
Reading.
Arithmetic, (mental and common,)
Grammar,

Geography.
German history,
Natural history.
The first principles of the physical sciences,
Singing,
The violin.

When the examination is concluded, a list is made out, in which the names of the young men are inscribed in order, according to the proficiency and ability they have displayed in their examination. As many of the highest in the list are then elected, as students of the college, as there are vacancies that year, occasioned by the departure of those who have left the college to take the charge of village schools.

Those who are elected, as well as their parents or guardians, are then required to subscribe the agreements I have before mentioned; and the successful candidates are then admitted as residents of the college for two or three years, according to the length of residence required by the rules of the college.

The time of residence in Prussia is generally three, and never less than two years. The time of residence in the normal colleges in the neighboring kingdom of Saxony is always four years. When the young men have been once admitted into the normal college, their education as teachers commences. It must however, be borne in mind, that the Prussian teacher, when he first enters a normal college, has generally before that period enjoyed a much better education, and knows much more than, than an English teacher does when he undertakes the management of a school. Unless he did, he would not be able to obtain admission into a normal college. When he leaves the normal college, he has had a better general education, than nine out of every ten men who leave our Universities.

The education of a good teacher is a very difficult matter, and, principally, for this reason: Nothing, but a very high education can fit an individual for the proper performance of that most delicate, difficult, and important duty, the education of a child. Great learning, even when accompanied with good principles, is often apt to unfit its possessor for the humble duties of a teacher's life; the mingling, living, and conversing with, and the advising the peasants; the laborious and often unnoticed and unrequited labors of the school-room; the constant and wearying struggle with sloth, ignorance, filth, bad habits, and immorality; with the opposition of the prejudiced, and the ignorance of the uneducated parents; with the misrepresentations of his scholars; and with the neglect of the community. The learned teacher has all this, and more than this, to contend with. He finds himself in such a situation, having received an education fitting him for a very different sphere of action, deserving much higher emolument, and inclining him to seek a very different kind of employment. Such a man, if he has received *only* an intellectual training, is sure, sooner or later, to fly from his profession, and seek out an employment more congenial to his newly acquired tastes, or, if he remains at his post, he remains discontented, and, by discontent, totally unfitted to perform his duties aright.

Now the Prussian and the German normal colleges have avoided this difficulty in the following manner: They give the teachers a very high intellectual education, but they give them something more: they educate *their habits* also; they accustom the young men, whilst they are in the colleges, to the most laborious and most menial duties; to combine high intellectual endowments with the performance of the humblest duties of a peasant's life; and to acquire high literary attainments whilst living on a peasant's diet, wearing a peasant's dress, and laboring harder than any peasant is ever called upon to do. When, therefore, the students leave the colleges, they find their positions, as village teachers, situations of less labor, of less real drudgery, and of more comfort, than those which they formerly occupied in the colleges. By these means, their sympathies for the labors and simplicity of the class, from which they sprung are cherished, whilst the labors of the class-room are rendered light and easy by comparison with the labors and daily duties of the normal college. Thus, the college does not engender discontent, but braces the young teacher to his work, and prepares him to encounter it with pleasure.

The education given in the normal colleges of Germany and Switzerland may then be said to consist of two distinct parts:

1st. The intellectual training.

2d. The industrial training.

1st. THE INTELLECTUAL TRAINING.—This, I have before said, is of a very high character. I have shown what knowledge a young man must have acquired, before he can gain admittance into a normal college. This is only the *ground-work* of his education in the college. During his three year's residence he continues his studies in—

Biblical history.
The history of Christianity,

Luther's catechism,
Reading, writing, arithmetic, and grammar.

He further enters upon a new and regular course of study in—

Geography,
History,
Natural history,
Botany,
The physical sciences.

Pedagogy,
Singing and chanting,
Drawing,
The violin, piano-forte, and organ.

Besides these subjects of study, the young men generally learn the Latin and French languages, and very often the English also. I met several teachers who knew all three. These latter acquirements are not, however, required; but without the former, a young man could not obtain a teachers diploma, or officiate in any school as a teacher, nor would he be accepted by the inhabitants of a parish.

The first two years of a teacher's residence in the normal college are devoted almost exclusively to these studies; the third year is divided between them and the daily practice of teaching in the model schools, connected with the college. Here they first practice as teachers, under the eye and direction of an experienced professor, who is able to show them how to impart knowledge in the best manner, and how to manage and direct all the minutiae of school discipline. Those who imagine, that any one is fit for the performance of these duties without any preparation, show themselves as ignorant of the duties of a teacher, as they are careless about the improvement and happiness of the people.

Besides the subjects of instruction I have noticed, the law requires, that each student shall be taught how to distinguish poisonous herbs; what are, and how to use, the antidotes of different poisons; how to treat the more common accidents which laborers are liable to meet with; and what remedies and treatment to make use of in cases of scalds, burns, and bites of mad dogs. The teachers are required to impart this instruction to the scholars of the primary schools, so that every person may be capable of acting for himself and without delay, in cases of such daily occurrence, and where a short delay in administering a simple and necessary remedy often proves fatal.

The teacher is thus qualified in simple cases to act as the village doctor; and in country villages, where no surgeon or medical adviser lives within many miles, the teacher's medical knowledge proves invaluable, both to himself and to the people, among whom he dwells. As the uneducated always esteem a man much more if he exhibits a knowledge of the practical arts and appliances of life, the benefit and use of which they can understand, than for any reputation he may have of learning, of the use of which they have generally but a vague idea; so this practical knowledge of the teachers tends greatly to raise them in the estimation and respect of their poorer neighbors, and by this means to give greater influence and effect to their advice and teachings.

2d. **THE INDUSTRIAL TRAINING.**—This consists, generally, of the performance of all the ordinary household work, preparing the meals, taking care of the sleeping apartments, pruning the fruit-trees, and cultivating, in the lands always attached to the colleges, the vegetables necessary for the use of the household.

The students are required to rise at five o'clock, and to retire to rest by ten at the latest; and in turn to wait upon the professors and on one another; to ring the bell for classes, &c.; to pump the water required for the daily use of the establishment; to go to the post-office for letters; and to teach in the class-rooms of the village school attached to the college.

The whole of every day is occupied by the regular routine of these duties, and by attendance at the lectures of the principal and the professors. There is no unoccupied time, and therefore, no time for the formation of idle or immoral habits. The college course is a laborious, severe, but healthy course of life; bracing up the mind, the body, and the habits, to the exertions of the future career. It is a more than Spartan discipline.

Every year, during its continuance, the young men are rigorously examined, to see whether they are making such progress in their studies, as to afford satisfactory reason for hoping that, at the end of their course of study, they will be able to succeed in gaining a diploma or certificate of competence. When it is found that a young man is incapable, or idle, and that his progress is not such as to insure his probable success in the final examination for diplomas, he is removed from the college, to make room for some more worthy recipient of the national bounty, and of some more worthy candidate for the teachers' profession.

This training continues, as I have said before, for *three* years in most of the Prussian colleges. During the whole of this time the young men are urged and stimulated to the greatest exertion, by the knowledge that, at the end of it, they will have to submit to a severe and searching public examination, conducted in the presence of the educational magistrates of the county, of the religious ministers, and of the professors of the college; and that on the results of that examination, and on the manner in which they succeed in it, their admission into the teachers' profession, and their future course of life, entirely depend.

Unless they can pass this final examination creditably, they can not become teachers; and even if they do pass it, the value of the situation, to which they may be afterward appointed, depends entirely on the degree of efficiency and diligence which they display at the examination.

Every year at a certain period, fixed and publicly announced beforehand, a meeting is held in each normal college, by the director and professors of the college, and by the religious ministers and the educational magistrates of the country, at which all the young men, who have been three years in the college, are summoned to attend, for the purpose of being examined in all the subjects, in which they have received instruction, during their residence in the college. This examination generally lasts two days.

The young men who have completed their third years' residence in the college are then examined in—

- | | |
|--------------------------------------|---|
| 1. Biblical history. | 8. Natural history, |
| 2. The history of Christianity, | 9. Botany, |
| 3. Luther's Catechism, | 10. The physical sciences, |
| 4. Reading, writing, and arithmetic, | 11. Pedagogy, and class management, |
| 5. Grammar, | 12. Singing and chanting. |
| 6. Geography, local and physical, | 13. Drawing, |
| 7. History, | 14. The organ, the piano-forte, and the violin. |

According to the manner, in which each student acquires himself in this examination, he receives, as I have before shown, a diploma marked "1," "2," or "3," or else is rejected, *i. e.* refused admittance into the teachers' profession, on the ground of incompetency.

If a student has succeeded so well in his examination, as to gain a diploma marked "1," he is qualified to take a situation in any school as principal teacher, and to enter at once into the highest and most lucrative situations in the country. This diploma is a guarantee to all to whom he shows it, that he is a young man of good ability, high character and great attainments, and fit to be intrusted with the education of any children of any class in the community.

If a student obtains a diploma marked "2," or "3," he can not, as I have before shown, for the first two or three years, take any situation as principal teacher in a school, but can only officiate as assistant teacher until, by further study and diligent application, he has qualified himself to attend another of the general annual examinations, and has there succeeded in obtaining one of the first diplomas. Those students who obtain the diplomas marked "3," are obliged to return *the following year*, to the college examination, and, if they do not give proofs of having improved themselves, in the interim, in the branches of education in which they were deficient, they are generally, deprived of their diplomas altogether.

Any person, whether he has been educated at a normal college or not, may present himself at one of them, at the time when the great annual examination is held, and may demand to be examined for a diploma. If he shows a requisite amount of knowledge, and can produce all the certificates of character, health, &c., which are required of the other students at their entrance into the normal college, he may, equally with the rest, obtain his diploma, and afterward officiate as a teacher.

But no person without a diploma, *i. e.*, without having given to the country undeniable proofs of high character, well regulated temper, high attainments, and a thorough knowledge of the science of pedagogy, is permitted to officiate as teacher in Prussia.

The connection of a German teacher with the normal college does not, however, close when he has obtained a diploma marked "1," and when he has entered upon his duties as a parochial teacher.

The principal of the normal college is commanded by the laws, to pay at least, one yearly visit of inspection to each of the teachers, who have been educated in

his colleges. The expense of these journeys of inspection, advice and encouragement is borne by the state, or rather, as indeed a great part of the expenses of the normal college itself, by the provincial magistrates. If on these tours of inspection, he perceives that any one or more of the teachers requires some further instruction or practice in any department of school instruction; if he perceives, that a teacher, has allowed his knowledge of any branch of instruction to lag behind the progress of the science of pedagogy, or to grow dull from want of exercise; or if the teacher should himself require it, the principal is empowered to remove the teacher for a few months to the normal college, and during the interim, to fill up his place with a young student, or with some young teacher, who has not yet obtained a situation. All the extra expenses, attendant upon this removal, as, for instance, the payment of the young substitute, as well as the keeping of the teacher himself during his renewed sojourn in the college, are defrayed by the provincial government. The teacher's salary continues to be paid by the school committee, and serves to support his family during his absence.

The normal college in Prussia is, so to speak, the home of all the teachers of the district, in which it is situated. They know they can always apply there for advice; that they will always find friends there, ready to sympathize with them and to render them assistance; and that the director and professors understand all their difficulties, and are always able and willing to aid them in obtaining a remedy from the superior authorities. The college is thus the protector and the adviser of the teachers; it is their refuge in all troubles; it is the central point for their meetings and reunions; and it is the place, from which they can, at all times, gain every kind of necessary information, respecting the various objects connected with their profession. They can see there all the best and newest works on the different branches of pedagogy; all the lately improved apparatus and materials for school instruction; and all the more recently adopted methods of teaching. They can obtain information there about the general progress of education in general, and of the different arts and sciences in particular; about their old friends and associates; and about the character and efficiency of particular books, schools, and methods of instruction.

I can not speak too highly of these great and liberal institutions. The spirit in which they have been conceived, is so liberal; the way in which they have been endowed, is so munificent; their tone and teaching are so truly healthy and patriotic; they are so free from the ignorant cant of dogmatism and from the narrow minded feeling of pedantry; their discipline is so severely moral and so invigorating; their domestic life is so simple, laborious, and happy in its arrangements; and they are so entirely in unison with the religious institutions of the country, that no one can visit them without profound satisfaction.

Normal schools or teachers' seminaries in Prussia, are divided into public or private, superior or chief seminaries, (*Haupt Seminaire*), and secondary, or small seminaries, (*Neber, or nebeusen Seminaire*.) By a chief seminary was originally understood such seminaries as were completely organized according to the requirements of the laws. Afterwards they were distinguished by the fact, that a special commission of examination was appointed for them, to which commission the director and head teacher belonged. But by recent regulation, a commission for this purpose is appointed to the small, and even the private, as well as to the superior seminaries. They differ now only by the number of pupils; and in a few instances, the smaller seminaries require a shorter residence, and train teachers exclusively for country schools. Private seminaries are encouraged, because the annual graduates of the public institutions can not yet supply the annual vacancies in the schools created by deaths, withdrawal, and dismissal. In addition to the seminaries included in the following table, there are five institutions for female teachers, viz.: at Berlin, Kaisersworth, Munster, Paderborn and Marienweider.

TABLE II.—LOCATION AND NUMBER OF PUPILS OF NORMAL SCHOOLS, IN 1846.

Province.	Regency District.	Place where located.	No. of Pupil Teachers.	No. of Masters and Assistants.	For what Sect designed.	Date when founded.	No. of Free Places.	No. of Pupils entered.
Prussia,	Königsberg,	Königsberg,	28	4	P.	1809	30	
		Braunsberg,	53	5	C.	1810	20	10
		Eylau,	70					
	Gumbinnen,	Angerberg,	38	3	P.	1829		
		Karlsruhe,	70	0	P.	1811	25	
Posen,	Danzig,	Marienburg,	53		C. & P.	1814		46
		Graudenz,	96	6	C. & P.	1816		59
	Posen,	Posen,	100	10	C.	1804	18	70
Brandenburg,	Bromberg,	Paradies,	78			1838		
		Bromberg,	30	4	P.	1819		30
	Potsdam,	Trzemesno,	15	2	P.	1829		
		Berlin,	34	3	P.	1820		
		Potsdam,	98	1	P.	1748		
Pomerania,	Frankfort,	Neuzelle,	120	10	P.	1817	10	88
		Alt-Döbern,	104	8	P.		22	24
	Stettin,	Stettin,	50	4	P.	1735		50
		Kammin,	18	2	C.	1840		
		Pyriz,	15	2	P.	1827		
Silesia,	Cöslin,	Cöslin,	60	5	P.	1806		60
		Stralsund,	31					
	Breslau,	Breslau,	195		C.	1765		58
Saxony,	Oppeln,	Ober-Glogau,	150	10	C.	1815		
		Buntzlau,	135	8	P.	1816		
	Magdeburg,	Magdeburg,	65	5	P.	1790		24
		Halberstadt,	49	4	P.	1778		12
		Gardelegen,	27			1821		
Westphalia,	Merseburg,	Eisleben,	20	3	C.	1836		
		Weissenfels,	68	4	P.	1794		23
	Erfurt,	Zeitz,	8					
		Erfurt,	103		C. & P.	1820		
		Mühlhausen,	6					
Rhine,	Münster,	Heiligenstadt,	32					
		Langenhorst,	36	3	P.	1830		
	Minden,	Petershagen,	34	3	P.	1831		
Aix-la-Chapelle,	Büren,	Büren,	80	5	C.	1825		
		Soest,	42	4	P.	1818		36
	Cologne,	Brühl,	100	7	C.	1823		57
		Kempen,	101	7	P.	1840		30
	Düsseldorf,	Meurs,	96	8	P.	1820		
Trier,	Coblentz,	Neuwied,	36	4	P.	1816		30
		Treves,			C.			
	Aix-la-Chapelle,							

Prior to 1846 there were two seminaries at Breslau; in that year the Protestant seminary, with 130 pupils, was closed, and the pupils were provided for in two new institutions, one at Löwen, and the other at Heinau. The Small Seminary at Zeitz, was abolished in 1846, and those at Stettin, Pyritz and Kammin, were consolidated into a Chief Seminary at Stettin. The Seminary at Potsdam, is to be transferred (in 1849) to Köpnick, in the neighborhood of Berlin.

XII. PROPOSITIONS FOR ERECTING A COLLEGE OF HUSBANDRY.

PRINTED—LONDON, 1651.

MASTER SAMUEL HARTLIB, the friend of Milton and co-laborer with him and Petty, and Cowley, in endeavors to promote learning and the public good in their day, thus introduces "*An Essay for advancement of Husbandry-Learning: or Propositions for the erecting a college of Husbandry: and in order thereunto, for the taking in of Pupills or apprentices; and also Friends or Fellows of the same COLLEDGE or Society.*"*

TO THE READER.

COURTEOUS READER,—I find by experience, that it is nothing but the narrowness of our spirits that makes us miserable; for if our hearts were enlarged beyond ourselves, and opened to lay hold of the advantages which God doth offer, whereby we may become joyntly serviceable unto one another in publicke Concernments; we could not be without Lucriferous employments for ourselves; nor unfruitfull to our neighbors, as now for the most part we are, only because we mind not the objects of that Industriousness, which without a mutuall concurrence can not be advanced. For mine owne part, although I can contribute but little; yet being carried forth to watch for the opportunities of provoking others, who can do more, to improve their talents, I have found experimentally that my endeavors have not been without effect as to their undertaking; for God hath brought beyond what I could imagine unto my hand from time to time, Objects of Service, answerable to the enlargement of my spirit: So that I must conclude, that it is nothing but the narrownesse of all mens spirits that makes their miseries to lye heavily upon them: for there are infinite meanes of reliefe and comfort, for all sorts of Calamities to be found in Nature, and well ordered Societies, if men were not enviously, or covetously, or peevishly, or ambitiously, or drowsily Straitened within themselves, in the use of that which God hath given them to serve the Glory of his goodness withall; towards the reliefe of themselves and others. And to waken such as are upright in heart, but yet lazie and drowsie under their Distractions, I have thought good to offer these hints to the Publique, which have a long time lain by me; that in this Hopefull appearance of Your settlement, those that droope might see a possibility (if they will not be wanting to themselves) to make themselves and others in this Nation, and juncture of time, more happie and plentifull in outward Professions than their Forefathers have been; by a Colledge or Corporation of Husbandry. For if in all other trades and Sciences, Colledges and Corporations have been and are exceedingly advantageous (if rightly ordered) for the improvement of the talents of those that betake themselves thereunto; Why may we not conclude that in the Science and Trade of Husbandry, which is the mother of all other trades and Scientificall Industries, a collegiall way of Teaching the Art thereof will be of infinite usefulness? I shall leave the thing to thy rationall consideration, that if the least part of Indus-

* In this and the following paper we shall follow the orthography of the original.—Ed.

trie is highly improved by Collegiall institution and Education, how much more may the chief part and as it were the very root of all Wealth, be advanced to perfection by this means? This Essay therefore is but an Overture, and a hint of this matter, that it may be further in due time ripened, and with more mature considerations brought to perfection, for the good of the Common-wealth, and the relief of the poor therein, which is the very earnest desire of
Thine and the Publiques Faithful Servant,

1651

SAMUEL HARTLIB.

PROPOSITIONS FOR ADVANCEMENT OF HUSBANDRY-LEARNING.

In humane affairs, and which relate not immediately unto God; nothing doth more tend unto the wel-being of a Nation (God giving his blessing thereunto in an humble and right use of it) than plenty of food and raiment, and of all other merchantable commodities to send abroad; which will not faile to returne the prosperity and happinesse of other nations again in exchange. And surely a Nation thus blessed can want no earthly comfort; but will doubtlesse be hated of some, feared of others, and sought to of all. But neither the one, nor the other of these are any other, then the fruits of or in the Earth: and those are not to be obtained but by the helpe of Ingenuity and Industry. The first wisely teaching, what is to be done; the second acting according to those good and right instructions diligently and carefully. By these two (instrumentally) we enjoy all outward things; and without them nothing. These are the first movers to all trades and professions under Heaven; and particularly, to that most auncient, most noble, and most necessary trade of all others, (viz.) good Husbandry, consisting of abundance of parts, of which these are some.

1. Tillage, or Setting, or Sowing of several sorts of corne and graine, for the reliefe and sustenance of Man and Beast.

2. The Breeding of Cattell, (in which the breeding of Sheepe may seem particular.)

3. The feeding of Cattle.

4. The use of the Dairy.

5. The planting of Orchards.

6. The planting of Gardens.

7. The breeding and feeding of Swine.

8. The breeding and feeding of the Several Sorts of tame Poultry.

9. The Planting of Hops.

10. The Sowing of Hempe, Flax, or Rape.

11. The breeding, preserving and taking of wilde beasts, as Conies, &c.

12. The breeding, preserving or taking of wilde Fowle, particularly of Duckes in and by a decoy.

13. The Making and Managing of Rivers, Moats, Ponds, &c., for the preserving and taking fish of all sorts for the use and sustenance of Man.

14. The planting of Wood, and all outlandish rare or extraordinary Roots, fruits or plants.

15. The dreining, fencing, mowing, and making of grasse in meadows into Hey.

16. The Making of *Malt*.

17. And (that now so exceeding necessary endeavor) the planting all sorts of Wood for timber or fire.

Besides, very many others which I forbear to name, as either not so easily

practicable in this Nation, or included in or subordinate to the former, as shearing of Sheepe, Thrashing of Corne, &c. or not vulgarly taken for the parts of Husbandry, (though indeed they are so) as the Digging of Coal-Pits, and production of all Minerals, Quarries of Stone, or useful earths, &c. As these are encouraged and enabled, so is a Nation more or lesse prosperous, or outwardly happy; both these in their distinct natures or uses are most excellent; and are also (at least ought to be) inseparable companions: of which if either precede it is Ingenuity; for that Industry as it is distinct from Ingenuity, can do nothing till the other have contrived what and how. Men take him for a fool or a mad man, that having store of wealth in his trunck, doth yet complain of want. What though the key be rusty for want of use? 'tis easier to get that Scoured, than to obtaine such another treasure. And surely I may upon most sure grounds say, that our Native Countrey, hath in its bowels an (even almost) infinite, and inexhaustible treasure; much of which hath long laine hid, and is but new begun to be discovered. It may seem a large boast or meer Hyperbole to say, We enjoy it not, know not, use not, the one-tenth part of that plenty or wealth and happinesse, that our earth can, and (Ingenuity and Industry well encouraged) will (by God's blessing) yield.

Now whereas there hath been earnestly desired (in the mean time, till the Publique Magistrate shall be at leasure, to give a more strong and ample encouragement and assistance to a designe so exceedingly for the Honour and advancement of the whole nation) the erection of a private Colledge or Society of good Husbandry; wherein some may teach, some learne, and all practise the whole and every part of this so honourable an art, so deep a mystery, and that not onely in the more customary and common way, but according to the most excellent rules, that Ingenuity and Experience gained by rational trials and real experiments have or can attaine to; that so the honour, wealth, and happinesse of this State may be multiplied, even before itself is aware, and the duller members thereof worne by emulation or example to such practises for their own private and publique good, as no perswasion nor force could ever have effectually led them to. And in respect that there are already divers propositions made, and some engagements also in order thereto; so as the worke hath begun to move, and is dayly advanced, and endeavored to be advanced by some such faithfull branches; as first and chiefly seek the prosperity of the whole stock, but have not sufficient power in their owne hands to go through with, and bring to perfection this great and good work; It is therefore propounded. First, to those, whose great wealth is joined with as great vertue and love to their Countrey; And will as well as Power to advance the Publique good, without seeking their own private benefit.

That whereas it is manifest, that such a colledge or society can not be erected without the building or buying (at least a long lease at an easie rent, if not the inheritance) of some large and convenient house, with some good quantity of land adjoining, and belonging to it, (though that is not all the land which must be had for this purpose;) and it is as manifest that such a purchase can not be made without good sums of money.

It is therefore desired, that all such well-wishers to their country's wealth and prosperity; be pleased to contribute such sums to this good and laudable worke, as in their own wisdomes and bounties appear necessary, and deliver the same into the hands of Mr. Samuel Hartlib, whose abundant zeale for the publique good, renders him most worthy to be intrusted therewith, till there shall

be a competent stock obtained for the setting forward of this great and good works before mentioned: and to subscribe their names and sums; that so the whole Society (when erected) and the whole nation (when in due time they shall have tasted the sweet effects from hence proceeding,) may know to whome to render all due thanks through all ages, as to the bountiful promoters of, by contributing to a designe so much conducing to the good of the present and prosperity of all ages to come: a plentiful reward to every noble spirit.

It is therefore also propounded, secondly:

To those whose good wills possibly are great, but their powers lesser then the former; and are therefore necessarily withheld from such free and voluntary contributing.

That whereas the knowledge and good influence of the actings of this society and its members, can not without a good large, and considerable stock encrease in its number and power, nor cast itself into all the formes of practise in the several parts of this art before mentioned, or that may be mentioned: and for want of which, the maine end of the erection of this Colledge or Society would not be obtained, viz, the infusing into the more sturdy Husbandmen of the nation in generall (now too much wedded to their more customary and lesser profitable working) the more perfect principles of their own art, and such additional uses and instruments, as shall make their practises more national, easie, and really effectual, and beneficial, as to themselves: so to the advancement and encrease of publike plenty and wellfare. It is therefore offered, that whosoever shall disburse and engage any sum, for the encrease of that stock, and consequently the employment of the Society: Shall by an unerring, unaltering rule, receive yearly; while his money remains in the hands of the Said Colledge, for every 100. pound, 20. pound, and so for a greater or lesser sum proportionably. And if any particular person shall desire to have his sum disbursed, to be employed in any one particular single part of this copious art here before mentioned; he shall have his desire fulfill'd: provided that his stock be sufficient to drive on that way; and that he be contented to forbear his revenue till Nature hath produced the returne. And whosoever shall thus engage, shall at any time (upon six moneths warning given) call in and again receive his sum formerly disbursed. And all those that shall thus engage, are desired to enter their names and Sums, by subscribing and delivering the money into the hands of Mr. Samuel Hartlib. And for security they shall have; As to law, the Propounders bond; as to Love, the word of him that desires to prove himselfe a just and honest Man, to God and man, (to his utmost power) and to all engagers a faithful Steward.

PROPOSITIONS, for the erecting a Colledge of Husbandry: and in order thereto for the taking in of Pupills or apprentices: and also Friends or Fellowes of the Same Colledge or Society.

I PROPOUND, that there may be a Colledge or School of all the sorts and parts of good-Husbandry erected; that so the knowledge and practise may become more universal, and men may have more sweet invitations and stronger allurements, to seek the knowledge of this deep and excellent mystery; and practise it to the advancement of a more general and Publique good; Not as now in a sordid clownish way for meer selfe profit; nor as now according to unsound and rather customary than rational rules and grounds; Nor as now in a dishonorable drudging way; which indeed is the grand cause that hinders or takes off the most ingenious spirits (which yet are most fit to be engaged.) For

It is plain, that the chief reason, why this so excellent an art, hath hitherto arrived at no greater perfection, is; that no publique course of incouragement and high prizing the same hath been thought of; and so the best wits shut out, that should have searched it out, and discovered this art more perfectly; which once generally known, together with the vast advantages thereby arising, as to the whole Nation; so to every particular practitioner; we need not fear to want disciples. It is most evident, that those few ingenious persons, that have looked into the wayes of improvement (having some thing also to work upon) of late years have advanced their particular interests to a double or trebble proportion. I am very confident, that those very improvements may again be doubled by yet better wayes.

That therefore Ingenuity may be ransomed from her too tedious captivity; and Industry awaked from a kind of lethargie; occasioned through wonted discontent; I PROPOSE more particularly, (to lay a little foundation for such a Colledge or Society, which I doubt not, time, emulation, and my own profit, will agree to finish.) That If any person of quality have a son or kins-man 15 years old or upwards, with whom he will give (besides well suiting him with all necessary wearing apparel, and more, to the value of twenty marks; in such other necessaries, as the undertaker shall appoint) 60*l.* 1*s.* in ready (£ I suppose)—money at his first entrance, and bind him apprentice for seven years; he shall be in that time faithfully instructed in both the Theorick and Practick parts of this (of all others) most auncient, noble, and honestly gainfull art, Trade, or Mystery. And at the end of that time, he shall receive at one entire payment to set up withal, 300 pound. And shall for foure years next ensuing the end of the said seven years, receive at the end of every year 100. pound more; the better to support him till he have taken sufficient root.

NOTE, That none are to be actually entertained till there be at least 10. entered; at which entrance, they are to pay onely 10. pound apiece, and for farther performances reciprocal Subscriptions. And when there are 10. entered, they are all to be ready upon a moneths warning to appear, pay down the other 50. pound apiece.

NOTE, That not above 36*l.* will be entertained at first, neither afterwards; but as by death, expiration of time, &c., there shall happen to be some wanting of that Number.

Into this Colledge also any man may enter himself as a free-man, or friend to, and Member of the Society; upon the following conditions.

1. He must pay down at his entrance 50. pound, as given to the Society for the encouragement of Ingenuity in the practise of Experiments, for the obtaining of yet more and more perfection in this (almost) infinite Science.
2. He must bring with him some skill, at least Ingenuity; and testifie himself to be a well-willer to the profession and professors of Good-Husbandry; and particularly to the Master and Fellowes of this Society.
3. He must produce at least 250. pound as a Stock to set up for Himselfe, to be driven by himselfe, according to the best direction and assistance to be given by the Master and Fellowes of the Colledge.
4. He shall (not Swear, but) Subscribe himself under hand and Seale, a faithful seeker of the advancement of the Mystery and Society; and to be aiding and assisting, to the Master and the Fellowes to his power, at all times, and in all cases, (his own interest alwayes preserved) and to consent and submit to all such orders, as shall be from time to time made, by the agreement of the Master and

the major part of the Fellowes of the said Colledge, for and concerning the same Society, and to stand to their award in any case of difference: and not directly or indirectly to discover all or any part of the same art, or Mystery to any person whatsoever, upon any pretence whatsoever, without their consent first had and obtained.

5. He must be alwayes in commons at the Hall of the said Society; at the rate of 8s. per week, or such other rates more or lesse, as the then present state of things shall require. And he is alwayes to pay off all arrears at the end of each moneth at the farthest, without any deductions for absence how long or short soever. But if he keep a servant (who must also be in commons when present) he shall be allowed to deduct for his absence. As also he is not to be accountable to the stable for his horse when absent.

6. He shall at his first entrance, pay for himselfe 10. pound, for his servant 5. pound, for his horse 40s. for their habitation; besides providing for all necessary furniture; but be ever after free till death or departure.

7. Lastly, he must be a single man; and if he shall at any time marry, he is from thenceforth to be accounted dead to the Society, to all intents and purposes whatsoever; save onely in point of debt or discovery.

HONORED SIR,—

The more I finde and consider of the generall backwardnesse of men, to accept or joine with me in the wayes by me propounded, for Mutual Prosperity; the more I am taught to view and review the things propounded, and that impartially. In order to this, I finde upon enquiry, that the maine objections against what I offer are three, viz:—

First, The supposed impossibility of performing (on my part) the thing promised.

Secondly, The Newnesse of the Invention or Contrivance, which renders it within the list of things suspected.

Thirdly, The non appearance of any such good security as is held sufficient to encourage men to joine with me freely, fully and speedily (that is, seasonably) to these I answer thus:—

First, upon most assured, and generally experimented grounds I affirme; that one acre of good ground to be sowed with wheate in the more usuall way of Husbandry, will (one place in this nation with another) require the charges or expence following, viz., for rent 13s. 4d. Dung 24 loads at 1s. 3d. per load £1 10s. Seed 9 pecks, usually worth 13s. 6d. (now more) twice ploughing, sowing, harrowing, &c., usually 10s. (now more,) for weeding 3s., for reaping, &c., 6s. 8d. for fencing one (acre amongst many,) 3s. 4d. Which in all amounts to £3. 19s. 10d. Out of which deduct 20s. which will remaine to be accounted with the following crops, in respect of the vertue of the Dung remaining still in the land. Thus the charge of sowing one acre of Wheat, amounts to 2 pound 19s. 10d., and for the returne of this, it is not unusual to have 3, 4 or 5 quarters: but take it at the lesser, and more generally certain rate, of three quarters on an acre, and value that at the more constant and lesser price of 5s. a bushel, or 40s. a qr., yet the returne amounts to 6 pound, which is double to the charge. I could illustrate this with many other examples as full, but let this suffice.

To the second I say, that the newnesse of my better way of planting or disposing of Corne into the ground, so as (God blessing my endeavors) to obtaine a yet greater increase; is so farre (well weighed) from being a reason to hinder:

that it is to me, and may be to others (when once rightly understood) a *spur* to hasten towards such an engagement or conjunction: When it is considered that the invention is yet our own, entirely; and consequently the most just and ready way to wealth and all that outward honor and happiness (that accompanies riches well gotten) is open to us, and to us principally; we having the opportunity (while we prepare for, and open the door to so great a Publick Good,) to christen our own child first, (as they say) which also is most lawful and appointed, that the ox that treadeth out the fodder, shall not be muzzled. Which of all those (almost infinite) wayes or means, by which man hath been made instrumental to the increase of his own well-being, was not in one age or other, as *New* as this *Invention of mine* doth seem to be in this? Certainly it is not the Newnesse, but the *Vanity* or *Invalidity* of any Invention, that layes it open to the dislike of the more wise and noble persons: or if the newnesse of an invention can any way render it fit to be. Suspected, it is onely in such as being altogether new, seem also to disagree with natural reason, and treade quite beside the path of experience; of this kinde it would be, if a man should pretend to make bread of stones; but to say, that I can make more or better bread of the same wheate, will appear impossible to none but inconsiderate persons. And the thing which I hold forth is nothing else, but to screw the most profound mystery of good Husbandry a note or two Higher; but to do the same thing by a better way, and to more advantage.

To the third and last, before I answer I will so farre digresse, as to enquire, what is or can be here meant by security? If it be required in the most high and strict sence, 'tis vaine and impossible to be had in humane affaires, and is not to be had or hoped for in this world, where the moth and rust do corrupt, and where thieves break through and steal: this is only to be had in Heaven; and can be no way procured on earth; but by laying up the treasures of good works: therefore he that will put forth his money upon good security indeed, must vent it in the wayes of Charity and Piety, as relating to God's glory and his soules eternal happinesse; at least in a way of bounty and noblesse for the Publick good of his neighbour and native countrye, as relating to his good fame after death. But if by security be meant something more moderate and ingenuous, onely a providential care to defend a man's selfe from being abused; so farre as such prosecutions are just, and agreeable to good reason, and the nature of the thing in question. I allow; and approve of it altogether; but not when it rather proceeds from forwardness base and groundlesse suspicion, and a naturall aversness and enmity to all good. Thus when a man lends to another *Politically* as a meer man, he requires bills, bonds, mortgages, or the like. But if he gives he doth not so, neither if he lend to the poor, or to persons so just, that he esteems their word sufficient. I suppose there are very many in London, that do frequently take up great sums without giving any formal security; nay that would take it for a great affront to have such a thing required of them; and yet surely it is no absolute miracle to see such a one break: why then are men so easie in that, and so difficult in this? or is it for the Mutual advance of Trade? Why, that very argument serves here too; unlesse they be resolved to advance no trade but their own. And even that also comes in here; for what trade can more advance the Engagers *Private*, then that which is faithfully driven on for the property of him and his posterity? or what can more magnify a great and populous city, then to stand in the midst

of a fertile soile, that affords her plenty and abundance: of all good things, which is already the happinesse of London? and this happinesse shall by this meanes, by God's blessing given unto and upon this means, be continually increased.

Again, it is rationall when men lend money for little or no advantage to themselves, but onely to do their friend a courtesie, it is but reasonable, that they should by all good meanes secure the repayment of their principall. But when men put forth their moneys in hope of great advantage, they must, and do usually forbear to stand upon such precise security; rightly considering, that God's providence is (as the best inheritance, so also) the best security that can be named, and will not faile to returne with a blessing any thing that shall be thereto intrusted faithfully. Thus, what other security (more then rational probabilities) hath the souldier; that ventures his life, limbs, liberty and all, and this without any other security than a good conscience (or a good confidence at least) in life or death; resting in that successe the Lord of Hosts shall please to appoint.

Thus the merchant puts (if not always himselfe: yet) his estate into a weak wooden vessel: and commits it to the mercy of the winds and waves, having set up his rest in the goodnesse of that God that parted the Red-Sea by his power. Thus, the mineralist layes out much money in sincking his pits and quarries, onely in hope to finde that richer veine he conceives to be there. Thus the patient commits his life, health and ease, (under God) into the physicians hands, as relying on his care and skill. I say, that all these, and many more, even all men in almost all humane actions, runne some kind of hazard; and more or lesse do and must depend upon God's mercy and Man's integrity, without any other outward formal security. Thus also do I propound (and that upon probabilities as certain and rational (if not more as any of these) that we may agree, engage, and sowe in hope; that that God that never suffers hope (rightly placed) to be frustrate; may make us return and bear our sheaves with us, may make our valleys stand so thick with corne, that they shall laugh and sing. Which that it may be thus, shall alwayes be the faithfull desire and earnest prayer of Sir,

Your most obliged, faithfull, and humbly
thankfull friend and Servant.

Sir,—By what is above said, and by many other very evident reasons, it is or may be proved, that in such a case as this, it is not much rational to demand any other security than the Propounders own obligation for performance of covenants. Yet that all men may know, that my intentions are fair and just, and my aimes not simply at my own private profit; but that I, also much more desire the prosperity of my nation, and of all persons that shall joyne with me, I offer and am content, that if the subscribers and consequently engagers shall think fit to meet, and amongst themselves chuse three such as I shall also like of, I will endeavor to give them (in the behalf, and as the Trustees of and for all the rest,) some more plain and satisfactory security, which is impossible to be done, to every particular person, that shall perhaps underwrite and engage onely 25. pound, or some such sum.

XIII. PLAN OF A TRADE OR INDUSTRIAL SCHOOL.

EXTRACTS FROM "THE ADVICE OF W. P. TO MR. SAMUEL HARTLIB," FOR THE
ADVANCEMENT OF SOME PARTICULAR PARTS OF LEARNING.

LONDON, PRINTED, A. D. 1647.

In the "Epistle dedicatory to his honored friend Master Samuel Hartlib," W. P. (afterwards Sir William Petty,) the founder of the Lansdowne family, says:—

"I have had many flying thoughts, concerning the advancement of real learning in generall, but particularly of the education of youth, Mathematicks, Mechanicks, Physicks, and concerning the History of Art and Nature, with some more serious ones concerning your owne most excellent advices for an Office of Public Adresse.* And indeed they were but flying thoughts, for seeing what vast summes were requisite to carry on those designes, and how unwilling or unable men generally were to contribute towards them, I thought it but labour lost to fix my mind much upon them."

The "Advice," begins as follows:—

"To give an exact definition or nice division of Learning, or of the advancement thereof, we shall not undertake (it being already so accurately done by the great Lord Verulam.) Intending only to shew where our owne shoe pincheth us, or to point at some pieces of knowledge, the improvement whereof, (as we at least conceive) would make much to the generall good and comfort of all mankind, and withall to deliver our owne opinion by what meanes they may be raised some one degree neerer to perfection.

But before we can meddle with this great work, we must first think of getting labourers, by appointing some generall rendezvous where all men either able or willing to take up armes against the many difficulties thereof, may finde entertainment.

That is to say, we must recommend the Institution of an Office of common Adresse, according to the projection of Master Hartlib, (that painfull and great instrument of this designe) whereby the wants and desires of all may bee made knowne unto all, where men may know what is already done in the businesse of Learning, what is at present in doing and what is intended to be done: to the end, that by such a generall communication of designes and mutuall assistance; the wits and endeavours of the world may no longer be as so many scattered coales or fire-brands, which for want of union, are soone quenched, whereas being but layed together they would have yielded a comfortable light and heat. For methinkes the present condition of men is like a field, where a battle hath beene lately fought, where we may see many leggs, and armes, and eyes lying here and there, which for want of a union and a soule to quicken

* In 1643, Hartlib presented a Memorial to the two Houses of Parliament for the establishment of an Office of Public or Common Adresse—A sort of Universal Exchange of Demand and Supply, which Memorial was afterwards embodied in a pamphlet of 34 quarto pages.

and enliven them, are good for nothing but to feed Ravens; and infect the aire. So we see many wittes and ingenuities lying scattered up and downe the world, whereof some are now labouring to do what is already done, and pusling themselves to reinvent what is already invented. Others we see quite stuck fast in difficulties, for want of a few directions, which some othre man (might he be met withall) both could and would most easily give him; againe one man wants a small summe of mony, to carry on some designe, that requires it, and there is perhaps another, who hath twice as much ready to bestow on the same designe, but these two having no meanes ever to heare the one of the other, the good work intended and desired, by both parties doth utterly perish and come to nothing: but this we passe over sleightly, though very fundamentale to our businesse, because the master-builder thereof himself hath done it so solidly. Having by this meanes procured workmen and what else is necessary to the worke, that which we would have them to labour in, is, how to finde out such arts as are yet undiscovered, how to learne what is already known, by more compendious and facile wayes, and to apply it to more, and those more noble uses, how to work in men an higher esteeme of learning so as to give occasion, encouragement, and opportunity to more men to apply themselves to its advancement. The next thing then to be done, will be:—

1. To see what is well and sufficiently done already, exploding whatsoever is nice, contentious, and meerly phantasticall. All which must in some measure be suppressed and brought into disgrace and contempt with all men.

2. This survey may be made by perusing all books, and taking notice of all mechanall inventions.

3. In this perusall, all the Real or Experimentall Learning may be sifted and collected out of the said books.

4. There must be appointed able readers of all such books, with certaine and well limited directions what to collect out of them.

5. Every book must be so read by two severall persons apart, to prevent mistakes and failings from the said directions.

6. The directions for reading must be such, as the readers observing them, may exactly agree in their collections.

7. Out of all these bookes, one booke or great work may be made, though consisting of many volumes.

8. The most artificiall indices, tables or other helps, for the ready finding remembering, and well understanding all things contained in these bookes must be contrived and put in practice.

Having thus taken the height or pitch whereunto al arts and sciences whatsoever, are already come; and observed where they now stick, the ablest men in every respective faculty must be set apart, to drive them on further with sufficient maintenance and encouragement for the same.

Whereunto it is requisite that two or three, one under another, be employed about each faculty, to the end that some of them dying, or any otherwise failing, there may never want men acquainted with the whole designe, and able to carry it on, with the help of others to be admitted under them; and that at least yearly accompts be taken of those mens endeavors, and rewards be proportioned to them accordingly. And now we shall think of whetting our tooles, and preparing sharp instruments for this hard work, by delivering our thoughts concerning education, which are,

1. That there be instituted *Ergastula Literaria*, literary-work-house, where

children may be taught as well to doe something towards their living, as to read and write.

2. That the business of education be not (as now) committed to the worst and unworthiest of men, but that it be seriously studied and practised by the best and abler persons. That all children of above seven yeares old may be presented to this kind of education, none being to be excluded by reason of the poverty and inability of their parents, for hereby it hath come to passe, that many are now holding the plough, which might have beene made fit to steere the state. Wherefore let such poor children be employed on works whereby they may earne their living, equall to their strength and understanding, and such as they may performe as well as elder and abler persons, viz., attending engines, &c. And if they can not get their whole living, and their parents can contribute nothing at all to make it up, let them stay somewhat the longer in the work-house.

That since few children have need of reading before they know, or can be acquainted with the things they read of, or of writing, before their thoughts are worth the recording, or they are able to put them into any forme (which we call inditing) much lesse of learning Languages, when there bee books enough for their present use in their owne mother tongue; our opinion is, that those things being withall somewhat above their capacity, (as being to be attained by judgement, which is weakest in children) be deferred awhile, and others more needful for them, such as are in the order of nature before those afore mentioned, and are attainable by the help of memory, wch is either most strong or unpreoccupied in children, be studied before them. We wish therefore that the educands be taught to observe and remember all sensible objects and actions, whether they be naturall or artificiall, which the educators must upon all occasions expound unto them. That they use such exercises, whether in work, or for recreation, as tend to the health, agility and strength of their bodies.

That they be taught to read by much more compendious meanes then are in common use, which is a thing certainly very easie and feasible. That they be not onely taught to write according to our common way, but also to write swiftly and in reall characters, as likewise the dextrous use of the instruments for writing many copies of the same thing at once.

That the artificiall memory be thought upon, and if the precepts thereof be not too farre above childrens capacities. We conceive it not improper for them to learn that also. That in no case the art of drawing and designing be omitted, to what course of life soever those children are to be applied. Since the use thereof for expressing the conceptions of the mind, seemes (at least to us) to be little inferiour to that of writing, and in many cases performeth what by words is impossible.

That the Elements of Arithmetick and Geometry be by all studied, being not onely of great and frequent use in all humane affaires, but also sure guides and helps to reason, and especiall remedies for a volatile and unsteady mind. That effectuall courses be taken to try the abilities of the bodies and minds of children, the strength of their memory, inclinations of their affections either to vice or vertue, and to which of them in particular, and withall to alter what is bad in them, and increase and improve what is good, applying all, whether good or bad, to the least inconvenience and most advantage.

That such as shall have need to learne forraigne languages, (the use whereof would be much lessened were the reall and common characters brought into

- practice) may be taught them by incomparably more easie ways then are now usual.
- That no ignoble, unnecessary, or condemned part of learning be taught in those houses of education. So that if any man shall vainely fall upon them he himselfe only may be blamed.
- That such as have any naturall ability and fnesse to musick be encouraged and instructed therein.
- That all children, though of the highest ranke, be taught some gentile manufacture in their minority. Such as are,
- Turning of curious figures.
- Making Mathematicall instruments. Dials and how to use them in astronomical observations.
- Making Watches and other Trochillick motions.
- Limning and painting on Glass, or in Oile colors.
- Graving, Etching, Carving, Embossing, and Molding in sundry matters.
- The Lapidaries art of knowing, cutting and setting Jewells.
- Grinding of Glasses Dioptrically, and Catoptrically.
- Botanicks, and Gardening.
- Making Musical Instruments.
- Navarchy and making Modells for buildings and rigging of ships.
- Architecture and making Modells for houses.
- The Confectioners, Perfumers, or Dier's arts.
- Chymistry, refining Metalls and counterfeiting Jewells.
- Anatomy, making skeletons, and exarnating bowells.
- Making Mariners Compasses, Globes, and other magnetick devices.
- And all for these reasons:—
1. They shall be lesse subject to couesened by the artificers.
 2. They will become more industrious in generall.
 3. They will certainly bring to passe most excellent works, being as gentlemen, ambitious to excell ordinarie workmen.
 4. They being able to make experiments themselves, may doe it with lesse charge, and more care than others will doe it for them.
 5. The *Resp. Artium*, will be much advanced, when such as are rich and able, are also willing to make Luciferous experiments.
 6. It may engage them to be Mecanates and Patrons of Arts.
 7. It will keepe them from worse occasions of spending their time and estates.
 8. As it will be a great ornament in prosperity, so it will be a great refuge and stay in adversity, and common calamity.
- As for what remaines of Education, we can not but hope that those, whom we have desired should make it their trade, will supply it, and render the idea thereof much more perfect.
- We have already recommended the studie of Arithmetick and Geometry to all men in generall, but they being the best grounded parts of speculative knowledge, and of so vast use in all practicall arts. We can not but commend deeper enquiries into them. And although the way of advancing them in particular, may be drawne from what we have already delivered, concerning the advancement of learning in generall, yet for the more explicite understanding of our meaning herein, we referre to Master Pella most excellent idea thereof written to Master Hartlib.

In the next place for the advancement of all Mechanicall Arts and Manufactures. We wish that there were erected a Gymnasium, Mechanicum, or a Colledge of Trades-men (or for more expedition untill such a place could be built, that the most convenient houses for such a purpose may be either bought or hired) wherein we would that one at least of every trade (but the prime most ingenious work-men, the most desirous to improve his art,) might be allowed therein, a handsom dwelling rent free. Which with the credit of being admitted into this Society, and the quick sale which certainly they would have of their commodities, when all men would repaire thither, as to a market of rare and exquisite pieces of work-manship, would be a sufficient motive to attract the very ablest mechanicks, and such as we have described, to desire a fellowship in this College.

From this Institution we may clearly hope when the excellent in all arts are not onely neighbours, but intimate friends and brethren, united in a common desire and zeal to promote them, that all trades will miraculously prosper, and new inventions would be more frequent, then new fashions of clothes and household-stuffe. Here would be the best and most effectuell opportunities and means, for writing a History of Trades in perfection and exactnesse, and what experiments and stuffe would all those shops and operations afford to active and philosophicall heads. Out of which, to extract that interpretation of nature, whereof there is so little, and that so bad as yet extant in the world? Within the walls of this Gymnasium or Colledge should be a *Nosocomium Academicum* according to the most exact and perfect idea thereof a complete Theatrum Botanicum, stalls and cages for all strange beastes and birds, with ponds and conservatories for all exotick flaes, here all animalls capable thereof should be made fit for some kind of labor and employment, that they may as well be of use living as dead; here should be a Repository of all kind of rarities.

Naturall and artificiall pieces of antiquity. Modells of all great and noble engines, with designes and platformes of gardens and buildings. The most artificiall fountaines and water-works. A library of select books, an astronomieall observatory for celestiaall bodies and meteors, large pieces of ground for severall experiments of agriculture. Galleries of the rarest paintings and statues, with the fairest globes and geographical maps, of the best descriptions, and so farre as is possible, we would have this place to be the epitome or abstract of the whole world. So that a man conversant within those walls, would certainly prove a greater scholar then the walking libraries so called; although he could neither write nor read. But if a child, before he learned to read or write, were made acquainted with all things, and actions (as he might be in this colledge,) how easily would he understand all good books afterwards, and smell out the forgeries of bad ones. As for the situation, modell, policy, oconomy, with the number of officers and retainers to this Colledge, and the priviledges thereof, it is as yet time enough to delineate. Only we wish that a society of men might be instituted, as carefull to advance arts as the Jesuites are to propagate their religion for the government and managing of it.

But what relish will there be in all those dainties whereof we have spoken, if we want a palate to tast them, which certainly is health the most desirable of all earthly blessings. And how can we in any reason expect health, when there are so many great difficulties in the curing of diseases, and no proportionable course taken to remove them? We shall therefore pursue the means of acquiring the publicke good and comfort of mankind a little further, and vent

set conceits concerning a Nosocomium Academicum or an hospitall to cure the infirmities both of physicians and patient.

"We intended to have given the most perfect idea of this Nosocomium Academicum, and consequently to have treated of the situation and fabrick of the house, garden, library, chymicall laboratorie, anatomicall theater, apotheca, with all the instruments and furniture belonging to each of them; as also of the whole policy and oeconomy thereof."

The writer prepares to realize his Nosocomium out of the Old Hospitals "under the reforming hand of authority," after giving some hints as to the organization of his College of Health, he proceeds:—

"Having now after a fashion gone through the description of such Societies and Institutions, as we have thought most fit for the advancement of reall learning, and among the rest, of the *Ergastulum Literarium* for the education of children, we now come to speak of such bookes, as being well studied and expounded in those schooles, would lay a very firme foundation of learning in the scholars.

"We recommend therefore in the first place (besides those bookes of collection; by us formerly mentioned, and Master Pells three Mathematical Treatises,) the compiling of a work whose title might justly be 'Vellus Aureum sive Facultatum Lucriferarum Discriptio Magna,' wherein all the practised wayes of getting a subsistence and whereby men raise their fortunes, may be at large declared. And among these, we wish that the History of Arts or Manufactures might first be undertaken as the most pleasant and profitable of all the rest, wherein should be described the whole processe of manual operations and applications of one natural thing (which we call the elements of artificials) to another, with the necessarie instruments and machines, whereby every peice of work is elaborated, and made to be what it is, unto which work bare words being not sufficient, all instruments and tooles must be pictured, and colours added when the descriptions can not be made intelligible without them. This history must not be made out of a sarrago of imperfect relations made to the compiler, either by too rude or cousening workmen, but all things thereunto appertaining must be by himselfe observed and attested by the most judicious and candid of each respective profession, as well to make the work the more authenticke, (it being to be the basis of many future inferences and philosophations) as the more clearly and distinctly to enforme the compiler himself, by whose judgement as the Alembick and industry as the fire, it is hoped that the quintessence and magesteries of all present inventions may be extracted, and new ones produced in abundance. Although it be intended to teach the making of all artificials, yet it is not to be understood that when there hath beene taught how to make a stoole, or a naile of one fashion, that the art of making a chaire or a naile of another fashion, should be long insisted on. But the compiler should strive to reduce the making of all artificials in each trade to a certain number and classes of operations tools and materials, neither need he to set the figures, or mention the name of all artificials that ever were made, but onely of such as are most knowne and of common use amongst men: he needeth not to describe every punctillo in making all the aforementioned particulars, and yet leave no more defects, then may be supplied by every common understanding. For we question whether (if he should engage himselfe in such an endlessse labour) a man by the bare light and instruction of a book could attaine to a dextrous practice of a trade;

whereunto hath been required seven yeares Autopsia. But are confident that the help of this book will lessen the former tedium by more than half. He should not so abridge the work as not to distinguish between instruments of the same name, as between a loom to weave kerseys, and another, wherein to weave silk ribbands or stockings. He should all along give the mechanickall reason of every instrument materiall and operation, when the same is sensible and cleere. He should all along note his own defects in setting down these histories, in case he had not at the time of the writing thereof sufficient information, and withall the deficiencies of the trades themselves.

Now whereas there be divers wayes and methods of working most manufactures, he should in each thing stick close to the way of some one Mr.; but note all the diversities he knoweth, and give his opinion of the use and goodnes of each.

Moreover the oeconomy, *Sive Ars. augendas rei familiaris*, in all professions ought to be inquired into, viz., what seasons of the yeare are most proper to each worke, which the best places and times to buy materials, and to put off the commodities when finished, how most thriftily to hire, entertaine, and oversee servants and workmen, how to dispose of every excrement and refuse of material, or of broken, worn, or otherwise unserviceable tooles and utensils, with all cauteles, impostures and other sleights good or bad, whereby men use to over-reach one another.

There ought to be added to this work many and various indices besides the alphabetical ones, as namely one of all the artificials mentioned in the whole worke. Another of all the naturall materials or elements of artificials, by what artificers used, from whence they come, where to be had, and what are the ordinary and middle prices of them.

Another of all the qualities or schemes of matter, as of all liquifiable things visca friable, heavy, transparent, abstersive, or otherwise qualified according to all the classes of 1, 2, and 3, qualities, to the end that materials for all intentions and experiments may be at hand and in sight.

Another of all operations mentioned in the whole work, as sawing, hewing, filing, boaring, melting, dissolving, turning, beating, grinding, boyling, calcining, knitting, spinning, sowing, twisting, &c. To the end that they all may also be at hand for the purposes aforesaid.

Another of all tooles and machines, as files, sawes, chissels, sheeres, sives, loomes, shuttles, wheels, wedges, knives, skrewes, &c., for the same purpose also.

The compiler ought to publish all his conjectures, how old inventions may be perfected, and new ones produced, giving directions how to try the truth of them. So that by all those unto whose hands these books shall come perchance, all the said suppositions may be tryed, and the successes reported to the compiler himselfe.

The compilers first scope in inventions shall bee, how to apply all materials that grow in abundance in this kingdome, and whereof but in considerable use, and profits are as yet made to more advantage to the common wealth. And also how all impotents whether onely blind, or onely lame, and all children of above seven yeares old might earne their bread, and not be so long burdensome to their parents and others. There should be made a preface to the worke to teach men how to make the most of experiments and to record the successes of them whatsoever, whether according to hopes or no, all being equally luciferous, although not equally luciferous. There ought to be much artifice used, that all

the aforementioned indices may handsomely referre one to another, that all things contained in the whole book may be most easily found, and most readily attend the seekers of new inventions. The way to accomplish this worke must be to enquire what to this purpose is already done, or in hand, in all places and also by whom, so that communication of counsels and proceedings may (if possible) be had with those undertakers. All bookes of this subject already extant in print, must be collected and bought, not to transcribe them, but to examine them per autopsiam, and re-experiment the experiments contained in them, and withall to give hints of new enquiries.

The compiler must be content to devote his whole life to this employment, one who (as we said before) hath the fire of industry and the alembick of a curious and rationall head, to extract the quintessence of whatsoever he seeth. He should bee as young as sufficient abilities will admit, to the end that he may with the concurrence of God's ordinary providence, either finish, or very farre advance the work, while he liveth, and also that living long in that employment, he may heap up the larger stock of experiments, which how much the greater it is in one man, affordeth so much the more the hopes of new inventions.

The nature, manner, and meanes of writing the History of Trades being so farre expounded, before we proceed furthur therein, for the better encouragement of undertakers. We shall now represent such profits and commodities thereof, to the commonwealth, as we at present more nearly reflect upon. For to enumerate or evaluate them all, will be much above our capacity.

1. All men whatsoever may hereby so look into all professions, as not to be too grossely cozened and abused in them.

2. The mysteries of trades being so laid open, as that the professors of them can not make so unlawful and exorbitant advantages as heretofore, such as are cunning and ambitious will never rest untill they have found new ones in their stead; so that the *Respublica Artium*, will be so much the more advanced.

3. Schollers and such as love to ratiocinate will have more and better matter to exercise their wits upon, whereas now they puzzle and tire themselves, about meer words and chymericall notions.

4. They will reason with more alacrity, when they shall not onely yet honour by shewing their abilities, but profit likewise by the invention of *Fructiferous Arts*.

5. Sophistry shall not be in such esteem as heretofore, when even sence shall be able to unmask its vanity, and distinguish it from truth.

6. Men seeing what arts are already invented, shall not need to puzzle themselves to reinvent the same again.

7. All men in generall that have wherewithall will be venturing at our '*Vellus Aureum*,' by making of experiments: and whether thereby they thrive or no (the directions in the preface being followed) they shall nevertheless more and more discover nature.

8. Nay, all nations sensible of this '*Auri Sacra fames*,' will engage in this hopefull businesse; and then certainly many hands will make light work in the said businesse of discovering nature.

9. All ingenious men and lovers of reall knowledge, have a long time begged this work, wherefore it can be no small honor to him that shall satisfie them.

10. A vast increase of honorable, profitable, and pleasant inventions must needs spring from this work, when one man (as the compiler thereof) may 'uno

instincts, see and comprehend all the labor and wit of our ancestors, and be thereby able to supply the defects of one trade with the perfections of another.

11. We see that all countries where manufactures and trades flourish, as Holland, &c., become potent and rich. For how can it be otherwise? When the revenues of the state shall be increased by new and more customers, all beggars feeding upon the labours of other men, and even thieves and robbers (made for want of better employment) shall be set on work, barren grounds made fruitful, wet dry, and dry wet, when even hogs and more indocile beasts shall be taught to labour. When all vile materials shall be turned to noble uses, when one man or horse shall do as much as three, and every thing improved to strange advantages.

12. There would not then be so many *fustian* and unworthy preachers in divinity; so many Petti-foggers in the law; so many quack-salvers in physick; so many grammaticasters in country schooles, and so many lazy serving-men in gentlemen's houses, when every man might learn to live otherwise in plenty and honour. For all men desirous to take pains, might by this book survey all the wayes of subsistence, and choose out of them all, one that best suits with his genius and abilities.

13. Schollers now disesteemed for their poverty, (what ever other thing commands them) and unable even for want of lively-hood, to perfect anything even in their own way, would quickly help themselves by opening treasures, with the key of luciferous inventions.

14. Boyes instead of reading hard Hebrew words in the Bible (where they either trample on, or play with mysteries) or parrot-like repeating heteroclitous nouns and verbs, might read, and hear the History of Faculties expounded, so that before they be bound apprentices to any trade, they may foreknow the good and bad of it, what will and strength they have to it, and not spend seven years in repenting, and in swimming against the stream of their inclinations.

All apprentices by this book might learn the theory of their trades before they are bound to a master, and consequently may be exempted from the 'Tedium' of a seven years bondage, and having spent but about three years with a master, may spend the other four in travelling to learn breeding, and the perfection of their trades. As it would be more profitable to boyes, to spend ten or twelve years in the study of things, and of this book of faculties, then in a rabble of words, so it would be more easie and pleasant to them as more suitable to the natural propensions we observe in them. For we see children do delight in drums, pipes, fiddels, guns made of elder sticks, and bellows' noses, piped keys, &c., for painting flags and ensignes with elder-berries and corn poppy, making ships with paper, and setting even nut-shells a swimming, handling the tools of workemen as soone as they tune their backs, and trying to work themselves, fishing, fowling, hunting, setting spranges, and traps for birds, and other animals, making pictures in their writing bookes, making tops, gigs, and whirling-gigs, guilting balls, practicing divers juggling tricks upon the cards, &c., with a million more besides. And for the females, they will be making pies with clay, making their babies clothes, and dressing them therewith, they will spit leaves on sticks, as if they were roasting meate, they will imitate all the talke and actions which they observe in their mother, and her gossips, and punctually act the comedy or tragedy (I know not whether to call it) of a woman's lying-in. By all which it is most evident, that children do most naturally delight in things, and are most capable of learning them, having quick senses to receive them,

and unpreoccupied memories to retain them. As for other things whereunto they are nowadays fit, they are altogether unfit for want of judgement, which is but weak in them, and also for want of will, which is sufficiently seen both by what we have said before, by the difficulties of keeping them at schools, and the punishment they will endure rather than be altogether debarred from this pleasure which they take in things.

This work will be a help to eloquence, when men by their great acquaintance with things, might find out similitudes, metaphors, allusions, and other graces of discourse in abundance.

To arithmeticians and geometricians, supplying them with matter whereupon to exercise those most excellent sciences, which some having with much pain once learned, do for want hereof forget againe, or unprofitably apply about resolving needless questions and making of new difficulties. The number of mix mathematical arts would hereby be increased.

For we see that opticks are made up of pure mathematicks, the anatomy of the eye, and some physick principles concerning the nature of light and vision, with some experiments of convexe and concave glasses. Astronomy is constituted againe of them, and some celestiall phenomena. Enquire againe of them, and some propositions, 'de Cochleâ et Vecte.' And so certainly as the number of axioms concerning severall subjects doth increase by this work. So the number of (their applications to pure mathematicks, id est,) new mathematicall arts, will increase also. Divines having so large a booke of God's works added to that of his word, may the more clearly from them both, deduce the wisdom, power, and goodnesse of the Almighty. Physicians observing the use of all drugs and operations in the production of artificials, may with successe transferre them to better uses in their art. And lawyers when they plead concerning trades and manufactures, would better know what to say on such occasions.

A young beginner may know by this book how much stock is needfull to set him up in trade. Gentlemen falling sometimes accidentally into tradesmen and handi-crafts company, would know how to make use of such occurrences to advantage.

Lastly,—This History with the comments thereupon, and the Indices, Preface and Supplemements thereunto belonging, would make us able (if it be at all possible) to demonstrate Axioms in Philosophy, the value and dignity whereof can not be valued or computed.

The next book which we recommend is the History of Nature free, for indeed the History of Trades is also a History of Nature, but of nature vexed and disturbed. What we meane by this history may be known by the Lord Verulam's most excellent specimen thereof, and as for the particulars that it should treat on, we referre to his exact and judicious catalogue of them, at the end of his "Advancement of Learning."

XIV. POLYTECHNIC SCHOOL OF CARLSRUHE.

GRAND DUCHY OF BADEN.

The Polytechnic School at Carlsruhe, the capital of the Grand Duchy of Baden, was established in 1825, under the governmental charge of the Minister of the Interior. Its comprehensive educational scope will appear in the following statement of its present organization and courses of study. Students may enter the lowest class of the General School or Mathematical Classes at fifteen years of age, with a certain required preparation.

GENERAL SCHOOL COURSE.

Religion.	Practical Geometry.
History.	Differential and Integral Calculus.
German Language.	Mechanics.
French Language.	Botany.
English Language.	Mineralogy and Geology.
Pure Mathematics.	Physics.
Geometry.	Technical Chemistry in general.
Trigonometry.	Free-hand Drawing.
Descriptive Geometry.	Calligraphy.
Analytical Geometry.	Modeling.

SPECIAL COURSES ON SCHOOL.

I. ENGINEERING SCHOOL. [Course three years.]

Ethics.	Landscape Drawing.
English Language.	Higher Analysis.
Jurisprudence.	Higher Mechanics.
Practical Surveying.	Roads and Hydraulic Works.
Higher Geodesy.	Machinery.
Topographical Drawing.	Architectural Drawing and Modeling.
Designs and Estimates for Works.	Higher Architecture.

II. ARCHITECTURAL SCHOOL. [Course four years.]

German Literature and Style.	Designs for Buildings.—Estimates.
Ethics and Aesthetics.	Technical Architecture.
Archæology of Art.	Construction of Roads and Hydraulic Works.
Higher Architecture; History; Styles.	Mineralogy and Chemistry.
Jurisprudence [<i>Populäre Rechtslehre</i> .]	Building and Ornamental Drawing.
Trigonometry, Spherical and Analytical Geometry.	Drawing of Constructions.
Differential and Integral Calculus.	Figure Drawing.
Mechanics and Hydraulics.	Aerial Perspective.
Descriptive Geometry.	General Modeling.
Theory of Machines.	Modeling Ornamental.

III. HIGHER TECHNICAL SCHOOL. [Course two years.]

For Technical Chemists.

General Chemistry.	Technical Chemistry
Analytical Chemistry.	Popular Mechanics.
Practical Geometry.	Common Roads.
Ethics.	History.
Chemical Manipulation.	Mineralogy.
English Language.	Geology.
French Language.	Book-keeping.
Botany and Zoology.	Commercial Law.
General Drawing.	Mechanics of Transport.

For Mechanists and Technologists.

Theory of Machines.	Technology.
Construction of Machines.	Technical Chemistry.
Physics.	English Language.
Higher Analysis.	Roads, Bridges, and Hydraulic Works.
Higher Mechanics.	French Language.

IV. FOREST SCHOOL. [Course two years.]

Practical Mathematics.	Mineralogy.
Technical Chemistry.	Geology.
Botany.	Meteorology.
Practical Geometry.	Road Making.
National Economy.	Agricultural Chemistry.
Forest Trees.	Forest Economy.
Forest Laws and Police.	Forest Rights and Sports.
Wood Taxation.	Preservation of Forests.

V. COMMERCIAL SCHOOL.

FOR COMMERCE. [Course one year.]

Commercial Law.	Commercial Correspondence.
Book-keeping.	Commercial Arithmetic.
History of Commerce.	Commercial Products.
German Composition.	Commercial Geography.
French Language.	Calligraphy.
English Language.	Drawing.

FOR POSTAL SERVICE. [Course two years.]

Arithmetic.	Popular Mechanics.
Geography.	Physics.
Religion.	General History.
French Language.	German Composition.
French Commerce.	Political Arithmetic.
National Economy	Jurisprudence.
English Language.	Mechanics of Transport.
Calligraphy.	Commercial Contracts.
Ethics.	Esthetics.

In 1852-3, there were 41 professors and teachers attached to this institution, with an attendance of 330 students, of whom 112 were foreigners,—72 from other German states, and 40 from other European nations.

The Government grant to the Polytechnic School of Karlsruhe is only 32,000 florins per annum,—about \$14,000,—while the expenses of the School amount to 50,000 florins—about \$21,000. To meet this deficiency a small charge is made to each student,—\$33.00 per annum.

XV. SWISS FEDERAL POLYTECHNIC SCHOOL, ZÜRICH.

PROGRAMME FOR 1856-7, ESPECIALLY THE FIRST HALF-YEAR.

SUBJECTS OF INSTRUCTION, CLASSED BY DIVISIONS.

FIRST DIVISION, OR SCHOOL OF ARCHITECTURE.

First Year.—1. *a.* Art of building, 3 hours; Thursday, Friday and Saturday, 10 to 11.

b. Architectural design and exercises on building, 3 afternoons, (6 hours per week in winter, 9 in summer;) Wednesday, Friday and Saturday, 2 to 4.

2. Mechanics, 6 hours; Monday, Wednesday and Saturday, 2 to 4.

3. *a.* Elements of differential and integral calculus, 4 hours; Tuesday and Thursday, 8 to 10.

b. Exercises on differential and integral calculus, 2 hours; Friday, 8 to 10.

4. *a.* Stone-cutting; and as introductory, theory of contacts and intersections of curved surfaces, 3 hours; Tuesday and Friday, 5 to 6; Saturday 6 to 7.

b. Drilling and exercises on stone-cutting, 1 hour; not yet determined.

5. Designing the figure, (5 hours in winter, 9 summer;) Monday, Tuesday and Thursday, 2 to 4, or 5.

6. Modeling in earth or plaster, 3 hours; Monday, 1 to 4.

In all, 16 hours of lessons; 16 to 22 hours of exercises.

Second Year.—1. Art of building civil edifices (continuation of course of construction,) 3 hours; Wednesday, Friday and Saturday, 11 to 12.

2. Art of building in middle ages and in the *Renaissance*. (During the second half-year, modern art of building,) 4 hours; Tuesday and Friday, 5 to 7.

3. Architectural design, sketches and detailed drawings of plans of buildings, (6 to 9 hours;) Tuesday, Friday and Saturday, 2 to 4.

4. *a.* Perspective and theory of shadows, 2 hours; Monday and Wednesday, 6 to 7.

b. Exercises on the same, 1 hour; not yet fixed.

5. Construction of roads and bridges, 3 hours; Tuesday and Wednesday, 8 to 9, and another hour not determined.

6. Theory of machines, 4 hours; Tuesday and Friday, 8 to 10.

7. Designing the figure, 2 or 3 hours; Monday, 2 to 4 or 5.

8. Modeling in earth or plaster, 2 to 3 hours; Saturday, 2 to 4 or 5.

In all, 15 hours of lessons; and 11 to 16 of exercises.

Third Year.—1. Art of building in the middle ages and during the *Renaissance*. (In the second half-year, modern art of building,) 4 hours; Tuesday and Friday, 3 to 7.

2. Drafting and detail drawings of architectural plans, 4 afternoons; Tuesday, Wednesday, Friday and Saturday, 2 to 4.

3. History of the *Renaissance*, 4 hours; Monday, Wednesday, Friday and Saturday, 5 to 6.

4. Designing the figure, 1 afternoon, 2 or 3 hours; Monday, 2 to 4 or 5.

5. *a.* Geology, 4 hours; Tuesday, Thursday, Friday and Saturday, 9 to 10.

b. Drilling on geology, 1 hour; not yet fixed.

In all, 12 hours of lessons, and at least 3 afternoons of exercises.

SECOND DIVISION, OR SCHOOL OF CIVIL ENGINEERING.

First Year.—1. Topography, 3 hours; Monday, Tuesday and Thursday, 10 to 11.

2. Designing plans, 2 or 3 hours; Monday, 2 to 4 or 5.
3. Elements of astronomy (for the first half-year,) 3 hours; Wednesday, Thursday and Saturday, 5 to 6; (Obligatory only upon pupils devoting themselves to the study of geodesy.)
4. a. Art of building, 3 hours; Wednesday, Friday and Saturday, 2 to 4.
b. Designs for building, 2 afternoons, Tuesday and Thursday, 2 to 4; (4 hours in summer, 6 in winter.)
(These two items are obligatory only upon pupils devoting themselves to civil engineering proper, as roads, railroads, &c.)
5. Mechanics, 6 hours; Monday, Wednesday and Saturday, 8 to 10.
6. Designing machines, 1 afternoon; Friday, 2 to 4; (2 hours in winter 3 in summer.)
7. a. Elements of differential and integral calculus, 4 hours; Tuesday and Monday, 8 to 10.
b. Exercises on the same, 2 hours; Friday, 8 to 10.
8. a. Stone-cutting, and as introductory, theory of contact and intersection of curved surfaces, 3 hours; Tuesday and Friday, 5 to 6; Saturday, 6 to 7.
b. Drilling and exercises in the art of stone-cutting, 1 hour; not yet fixed.
9. Land-measuring, (in summer,) one day.
19 hours of lessons; 7 to 13 hours of exercises; and in summer, one day of Land-measuring.

Second Year.—1. a. Construction of roads, railroads and hydraulic buildings, 3 hours; Monday, Tuesday and Thursday, 11 to 12.
b. Drilling in the same, 1 hour; Wednesday, 9 to 10.
2. Exercises in construction of roads and hydraulic works, 3 afternoons, (6 hours in winter, and 9 in summer;) Monday, Tuesday, and Wednesday, 2 to 4 or 5.

(Obligatory only on pupils devoting themselves to civil engineering.)
3. Geodesy, 2 hours; Tuesday and Wednesday, 8 to 9. (Obligatory only on pupils devoting themselves to geodesy.)

4. Drawing maps, 3 hours; Thursday, 2 to 4 or 5.
5. Theory of machines, 4 hours; Tuesday and Wednesday, 8 to 10.
6. Setting up of machines, 1 afternoon, (2 hours in winter, 3 in summer;) Friday, 2 to 4.

7. a. Integral calculus, 2 hours; Monday and Friday, 10 to 11.
b. Analytical geometry, 2 hours; Friday and Saturday, 10 to 11.
c. Exercises in integral calculus and analytical geometry, 2 hours; Tuesday and Thursday, 10 to 11.
d. Integral calculus (a second course,) 3 hours; Monday and Friday, 10 to 11; and one hour not yet fixed.

(b. and c. above, obligatory upon all pupils, and either a or d, at their option.)

8. a. Perspective, and theory of shadows, 2 hours; Monday and Friday, 6 to 7.

- b. Exercises on the same, 1 hour; not yet fixed.
9. Industrial physics, Industrial natural philosophy, 4 hours; Monday and Thursday, 8 to 10.

10. Modeling in earth and in plaster, 1 afternoon, 3 hours; Saturday, 1 to 5.

11. Technology of building materials, 1 hour; Monday, 4 to 5
(In winter,) 13 to 21 hours of lessons; 12 to 19 hours of exercises.

Third Year.—1. a. Construction of roads; hydraulic building, 3 hours; Monday, Tuesday and Friday, 10 to 11.

- b. Drilling on the same, 1 hour; Thursday, 10 to 11.
2. Exercises on the same, 3 afternoons; Monday, Tuesday and Wednesday, 2 to 4 or 5.

3. Geodesy, 2 hours; Tuesday and Wednesday, 8 to 9.

4. Drawing maps, 3 hours; Thursday, 2 to 4 or 5.

5. a. Geology, 4 hours; Tuesday, Thursday, Friday and Saturday, 9 to 10.

- b. Drilling on same, 1 hour; not yet fixed.

Lessons, 9 hours; exercises, all remaining hours.

THIRD DIVISION, OR SCHOOL OF INDUSTRIAL MECHANICS.

- First Year.*—1. Mechanics, 6 hours; Monday, Tuesday, Wednesday, 8 to 10.
 2. Designing machines, 2 afternoons; (4 hours in winter, 6 in summer;) Wednesday and Saturday, 2 to 4 or 5.
 3. *a.* Elements of differential and integral calculus, 4 hours; Tuesday and Thursday, 8 to 10.
b. Exercises on same, 2 hours; Friday, 8 to 10.
 4. *a.* Stone-cutting; and as introductory, theory of contact and intersection of curved surfaces, 3 hours; Tuesday and Friday, 5 to 6; Saturday, 6 to 7.
b. Drill and exercises on same, 1 hour; not yet fixed.
 5. Construction of models in metal, 1 afternoon, 3 hours; Friday, 1 to 4.
 6. Construction of models in wood, 1 afternoon, 3 hours; Tuesday, 1 to 4. Lessons, 13 hours; exercises, 13 to 15 hours.

- Second Year.*—1. Theory of machines, 2 hours; Tuesday and Friday, 8 to 10.
 2. *a.* Construction of machines, 4 hours; Wednesday and Saturday, 8 to 10.
b. Setting up of machines, 4 afternoons, (8 hours in winter, 12 in summer;) Tuesday, Wednesday, Thursday and Saturday, 2 to 4 or 5.
 3. *a.* Integral calculus, 2 hours; Monday and Wednesday, 10 to 11.
b. Analytic geometry, 2 hours; Friday and Saturday, 10 to 11.
c. Exercises on both the above, 2 hours; Tuesday and Thursday, 10 to 11.
 4. Integral calculus (a second course,) 3 hours; Monday and Wednesday 10 to 11; 1 hour not yet fixed.
 (b and c, above, obligatory on all pupils; and either *a* or *d*, at their option.)
 4. Construction of models in metal, 1 afternoon, 3 hours; Monday, 1 to 4.
 5. Industrial physics, 4 hours; Monday and Thursday, 8 to 10.
 6. Mechanical technology, (in winter,) 4 hours; Monday and Friday, 11 to 12; Saturday, 11 to 12 and 4 to 5.

FOURTH DIVISION, OR SCHOOL OF INDUSTRIAL CHEMISTRY.

- First Year.*—1. Inorganic chemistry, 5 hours; Monday to Friday, 10 to 11.
 2. Exercises on classical analysis in the laboratory, 2 afternoons, 6 hours; Monday and Tuesday, 1 to 4.
 3. *a.* Zoology, first part, 5 hours; Monday to Friday, 5 to 6.
b. Drill on same, 1 hour; not yet fixed.
 4. General botany, 3 hours; Monday to Friday, 4 to 5.
 5. Mineralogy, 2 to 3 hours; Wednesday and Friday, 3 to 4.
 6. Technical designing, 4 hours; Monday, 8 to 10; Saturday, 10 to 12. Lessons, 13 hours; exercises, at least 11 hours.

- Second Year.*—*a. Division of Industrial Chemistry.*—1. Industrial chemistry, 4 hours; Monday to Thursday, 10 to 11.
 2. Manipulations in the laboratory of industrial and pharmaceutical chemistry, 4 afternoons, 12 hours; Monday to Thursday, 1 to 4.
 3. Industrial physics, 4 hours; Monday and Thursday, 8 to 10.
 4. Technical designing, 4 hours; Tuesday and Saturday, 10 to 12.
 5. Chemical technology of building materials, 1 hour; Monday, 4 to 5.
 6. *a.* Geology, 4 hours; Tuesday, Thursday, Friday and Saturday, 9 to 10.
b. Drill on same, 1 hour; not yet fixed.
 Lessons 13 hours; exercises 17 hours.
b. Division of Pharmaceutical Chemistry.—1. Industrial chemistry, 4 hours; Monday to Thursday, 10 to 11.
 2. Manipulations in laboratory of industrial and pharmaceutical chemistry, 4 afternoons, 12 hours; Monday to Thursday, 1 to 4.
 3. Technical portion of pharmacy, 2 hours; Tuesday and Thursday, 4 to 5.
 4. Raw materials, pharmaceutically considered, 3 hours.
 5. Pharmaceutical botany, 3 hours; Thursday, Friday and Saturday, 3 to 4.
 6. Industrial physics, 4 hours; Monday and Thursday, 8 to 10.
 Lessons, 16 hours; exercises, 12 hours.

FIFTH DIVISION, OR SCHOOL OF FORESTRY.

First Year.—1. Encyclopedia of forestry, 3 hours; Monday, Wednesday and Thursday, 8 to 9.

2. Valuation and estimates of roads, 2 hours; Monday and Wednesday, 9 to 10.

3. Excursions, exercises on taxation, drill and conversation, 1 day; Saturday.

4. a. Zoology, first part, 5 hours; Monday to Friday, 5 to 6.

b. Drill and questions on above, 1 hour; not yet fixed.

5. General botany, 3 hours; Monday to Friday, 4 to 5.

6. Mineralogy, 2 hours; Wednesday and Friday, 3 to 4.

7. Topography, 3 hours; Monday, Tuesday and Thursday, 10 to 11.

8. Design of plans, 2 to 3 hours; Monday, 2 to 4 or 5.

9. Geology, with drill on same, 5 hours; Tuesday, Thursday, Friday and Saturday; and 1 hour not yet fixed.

Lessons, 24 hours; exercises, 4 to 5 hours, and 1 day.

Second Year.—1. Forest administration and police, 3 hours; Monday, Wednesday, Friday, 11 to 12.

2. Preservation of forests, 2 hours; Tuesday and Thursday, 11 to 12.

3. Statistics and literature of forestry, 1 hour; Friday, 10 to 11.

4. Management of forests, 4 hours; Tuesday and Friday, 8 to 10.

5. Introduction to management of forestry business, 1 hour; Monday, 6 to 7.

6. Excursions, drill, and conversation, 1 day; Saturday.

7. Construction of bridges and roads, 2 hours; Wednesday, 8 to 9; and 1 hour not yet fixed.

8. Industrial physics, 4 hours; Monday and Thursday, 8 to 10.

Lessons, 11 hours; exercises, 1 day and 1 hour.

SIXTH DIVISION; OF PHILOSOPHICAL AND POLITICAL SCIENCE.

a. *Natural Sciences.*—1. Inorganic chemistry, 3 hours; Monday to Friday, 10 to 11.

2. Exercises on chemical analysis in laboratory, 3 hours; Tuesday, 1 to 4.

3. Exercises for the most advanced students, every day except Saturday.

4. Chemical technology of building materials, 1 hour; Monday, 4 to 5.

5. Experimental physics, 6 hours; every day, 11 to 12.

6. Drill on the preceding, 2 hours; not yet fixed.

7. Mathematical physics; introduction, and theory of elasticity, 4 hours; Tuesday, Wednesday, Friday and Saturday, 8 to 9.

8. Zoology, first part, 3 hours; Monday to Friday, 5 to 6.

9. Drill and questions on same, 1 hour; not yet fixed.

10. General botany, 5 hours; Monday to Friday, 4 to 5.

11. Use of microscope, daily; forenoon.

12. Antediluvian plants, 3 hours; Monday, Tuesday and Friday, 2 to 3.

13. Fossil insects, 2 hours; Tuesday and Wednesday 5 to 6.

14. Natural history of mushrooms, with special reference to maladies of plants and animals, 2 hours.

15. Drill on general botany, with microscopic demonstration, 2 hours.

16. Drill on general botany, with herbal, 1 hour.

17. Geology, 4 hours; Tuesday, Thursday, Friday and Saturday, 9 to 10.

18. Drill on same; 1 hour, not yet fixed.

19. Swiss materials for building, 2 hours; Tuesday and Thursday, 4 to 5.

20. History, construction and coloring of geological charts and sections.

21. Mineralogy, 2 to 3 hours; Wednesday and Friday, 3 to 4.

(Other lessons on mineralogy will be hereafter announced.)

b. *Mathematical Sciences.*—22. Integral calculus, continued from last term, for second year of second and third divisions, 2 hours; Monday and Wednesday, 10 to 11.

23. Analytical geometry, continued from last term, for second year of second and third divisions, 2 hours; Friday and Saturday, 10 to 11.

24. Exercises for all the students of first and second year of second and third divisions, 2 hours; Tuesday and Thursday, 10 to 11.

25. Algebraic analysis, 2 hours; Monday and Thursday, 11 to 12.
26. Elements of differential and integral calculus, 4 hours; Tuesday and Thursday, 8 to 10.
27. Exercises on differential and integral calculus, 2 hours; Friday, 8 to 10.
28. Intersection and contact of curved surfaces, and stone-cutting, 4 hours; Tuesday and Friday, 5 to 6; Saturday, 6 to 7; and 1 hour not yet fixed.
29. Perspective and theory of shadows, 3 hours; Monday and Wednesday, 6 to 7; and 1 hour not yet fixed.
30. Elements of astronomy, as introduction to geodesy, 3 hours; Wednesday, Thursday and Saturday, 5 to 6.
31. Mathematics, pure and applied, after a manual to appear soon, 4 hours; and a drill of 1 hour.
32. Practical course of differential and integral calculus, 3 hours.
33. Descriptive geometry, first part, 2 to 3 hours.
34. Method of teaching mathematics for candidates for employment as teachers, 2 hours.
35. Geometrical analysis of surfaces of the second degree, 2 hours.
36. Synthetic geometry, after Steiner, 2 hours.
37. Theoretical astronomy, 2 hours.
38. Integral calculus, 3 hours; Monday and Wednesday, 10 to 11; and 1 hour not yet fixed.
39. Elementary mathematics, including the branches detailed in the programme for 1856-7, (in French,) 6 hours.
40. Political arithmetic, (interest, rent, savings' banks, banks,) &c., 2 hours; (in German or French.)
41. Mechanics, 6 hours; Monday, Wednesday and Saturday, 8 to 10.
- c. *Literary, Moral and Political Science.*—42. "Faust" of Goethe, 2 hours; Wednesday and Friday, 4 to 5.
43. "Parcival" of Wolfram von Escheubach and "Tristan" of Gottfried von Strassburg, 2 to 3 hours; Tuesday, Thursday and Saturday, 4 to 5.
(The same instructor, (Prof. Vischer,) will give a course of instruction at the university, in aesthetics, part first, 4 to 5 hours.)
44. French literature, 3 hours; Tuesday, Thursday and Saturday, 4 to 5.
45. Italian literature, 3 hours; Tuesday, Thursday, Friday, 6 to 7.
46. Italian composition, 1 hour; Thursday, 5 to 6.
47. History of English literature from end of last century to present time, 2 hours; Tuesday and Thursday, 6 to 7.
48. Shakspeare's "Timon of Athens," and "Love's Labors Lost," translated and explained, 2 hours; Monday and Wednesday, 6 to 7.
49. Exercises in speaking and writing English, 2 hours; Monday, 5 to 6; and Friday, 6 to 7.
50. General modern history, with special reference to intellectual developments, 3 hours; Monday to Friday.
51. Sources of Roman History, 2 hours; Saturday, 9 to 11.
52. Art of building in the middle ages and the *Renaissance*; and as introductory, a general view of the art of building among the ancients, 4 hours; Tuesday and Friday, 5 to 7.
53. General views of the history of the *Renaissance*, 4 hours; Monday, Wednesday, Thursday and Saturday, 5 to 6.
54. History of painting and sculpture since the fifteenth century, 4 hours; Monday, Tuesday and Thursday, 11 to 12; Saturday, 6 to 7.
55. Archæology of Christian Art, 2 hours.
56. Classic and German mythology, 2 hours.
57. Greek anthology, 2 hours.
58. Political economy, 3 hours; Monday, Wednesday and Friday, 6 to 7.
59. International law, 2 hours; Tuesday and Thursday, 6 to 7.
60. Commercial law, 3 hours; Monday, Wednesday and Friday, 4 to 5.
61. Forestry laws, 1 hour; Tuesday, 3 to 4.
- d. *Fine Arts.*—62. Landscape drawing, 4 hours; Thursday and Friday, 2 to 4.
63. Drawing the figure, after copies and models; Monday, Tuesday and Thursday, 2 to 4.

64. Modeling in earth and plaster, for students in architecture and engineering, 2 afternoons; Monday and Saturday, 1 to 4.

65. Designing ornaments for buildings, furniture, and other productions of arts and trades, 4 hours; Monday and Tuesday, 10 to 12.

Instruction in German will be given, if thought necessary.

APPARATUS, ETC., FOR INSTRUCTION.

a. Collections.—During the year 1855-6 collections have been commenced, and carried to a point nearly as follows:—

For drawing the figure.—Parts of the body, and entire figures. Simple outlines, and shaded designs after the different methods of Julien and Volpats. Models by Albin and Mart. Fischer, for instruction in plastic anatomy. A prepared human skeleton. Busts and detached portions of the body in plaster, mostly after the antique.

For landscape drawing.—Lithographs of Calame; studies by the professor.

For architectural drawing.—Including constructions in wood and stone and architectural decoration, by different masters. (See below, under *Library*.)

Models of construction.—Collection of pieces of wood; models of roofs, mostly after Moller; various arches for doorways; all from the establishment of Schroeder at Darmstadt. This collection will be completed as soon as possible, from the rooms for working in wood and for making models.

Plaster models of architectural ornaments.—Capitals and bases of antique columns, and other portions of monuments of antiquity, mostly from the archaeological collections of Paris.

Instruments for land surveying.—Large instruments for measuring angles; including, a repeating theodolite and another smaller theodolite, by Brunner of Paris; five leveling instruments, from Ertel of Munich, Starke of Vienna, Kinzelbach of Stuttgart, and Goldschmidt of Zürich; four surveyor's tables; and other instruments, by Goldschmidt of Zürich and other Swiss makers.

For drawing plans.—Designs, partly by Prof. Bardin, of the Polytechnic School at Paris, but principally by Prof. Wild.

Astronomy.—Various small instruments which have been used during the summer for the practical exercises carried on in the small observatory at Zürich, which has been temporarily put in order for the purpose.

Machines.—Models for the transformation of motion, from Prof. Walter of Augsburg. (Engrenages,) by Schroeder of Darmstadt. Models of turbine wheels on a large scale, and section models of steam-engines, are being constructed in the work-rooms of the school.

There is a Weissbach's hydraulic apparatus, with its accessories, for instruction in mechanics.

Library.—During the year which is all that has elapsed since the foundation of the library, there have been collected about 2,000 volumes, most of them upon the various mathematical and applied sciences taught in the school, and of which a small number appertain specially to the sixth division. One set of works with copperplates, on the art of building, is of great value.

In the reading-room are to be found thirty journals, mostly technical and mathematical, but some upon other sciences.

The library was opened January 27, 1856, since which time have been given 610 discharges of receipts for books taken home. Besides most of the professors, 62 pupils of the polytechnic school have made use of the library.

There are at Zürich collections in natural history, an archaeological collection, a library for natural history, and another for the sciences; to all of which pupils can have access.

b. Scientific and Technical Departments.—*Chemical laboratory for analysis.*—This is arranged for practical men, and well provided with all the necessary apparatus. Two afternoons are employed in the obligatory practice of the regular pupils, to whom the laboratory is always open at other times. During the first term, 11 regular scholars and 14 attendants on lectures made use of it, and during the last term, 11 of the former and 10 of the latter.

Laboratory of chemistry for technical and pharmaceutical operations.—This, after some small changes shortly to be made, is calculated for sixteen practicing scholars. Some large apparatuses necessary in a technical laboratory have not yet been erected, on account of want of room; but there is a sufficient supply of other apparatus. The collection of articles for use in chemical instruction is already begun. This laboratory has been attended during the first term by two regular pupils and three attendants on lectures, and during the second, by two of the former and five of the latter. The operations performed by the regular pupils are adapted to their future employment.

Cabinet of natural philosophy.—The collection of instruments of natural philosophy has been hitherto provided with instruments chiefly coming from the manufacturers of Paris and Berlin. The Regnault's steam apparatus is by Galaz, the thermometrical apparatus, by Fostée, the optical apparatus by Duboseq, of Paris, and all the electrical apparatus from Berlin. Various instruments have been procured, also, from other German or Parisian manufacturers. During the lessons, use has also been made of the apparatus belonging to the canton of Zürich, which are deposited in the same place.

Convenient accommodations are yet wanting for exact physical experiments and large operations.

Workshop for making models in metals.—During the first term, fifteen regular pupils and 1 attendant on lectures have been employed here, and the same number during the second. It contains ten vices, with the instruments belonging to them; but those which are least used are fewest in number. One vice, with a more complete set of tools, is appropriated to the adjoint professor in charge, and each of the others is used during one term by a set of pupils who use it alternately. Each vice, and the tools belonging to it, are designated by a certain number. The most important large instruments in this workshop are, a lathe for turning metals, arranged also for cutting screws; a hand machine for planing metals; a boring machine, shears, &c.; a forge with a small ventilating blast on the American plan, to work by hand, with anvils, tongs, and the whole apparatus of a complete small forge.

Workshop for models in wood.—This was used during the first term by seven regular pupils and three attendants of lectures, and during the second by five of the former and two of the latter. It contains five carpenter's benches with their fittings, one of which is set apart for the adjunct professor, and the others are used by the pupils. There is also a turning-lathe for wood with the tools. The vices and benches are numbered, and the tools belonging to each has the same.

As almost all the pupils who have been at work here during the current year has had no previous practice, the first months were occupied in teaching them how to handle the tools. In the workshop for metals they filed cubes, and in that for wood, learned to use the principal tools. Afterwards they were set to construct models of machinery; and in the former of the shops the pupils have been made to do as much as was possible, the instructor only putting on the finishing touch.

The models completed are as follows:—

1. Section model of locomotive cut-off, with Stephenson's (couliase.)
2. Section model of locomotive cut-off, on Gooch's plan.
3. Diagram showing the excellences of the different locomotive cut-offs.

There is, not yet completed, a locomotive cut-off on the plan of Heusinger of Waldegg.

In the workroom for wood, except a model of a roof by a pupil who had practiced before, no large model has been made; the pupils have been altogether employed in making presses for their tools. Both pupils and teacher have had to employ much time in finishing off their workroom, and preparing it for use, and to construct (especially the teacher) a large supply of simple tools: and the same is the case in the workroom for metals.

During the coming year, in which the number of pupils will constantly increase, the directors will endeavor to have constructed various small machines for the collections, and especially models which may be used in the course of instruction; and will endeavor to make all the scholars assist in this design, each according to his capacity.

The instructors in charge of the work will use all their time, outside of the hours of instruction, in the workshop and in finishing difficult models.

Workshop for modeling in earth and plaster.—There have been prepared plaster models of stonework, to a given scale, according to the theoretical course in stone-cutting, and also architectural ornaments and parts of the body modeled in earth and afterwards molded in plaster. The workshop, besides the pupils regularly employed in it, has been used during the first term by nine others, and during the second by three. Most of these others were obliged during the latter term to return to their own practical vocations. The professor (the sculptor, M. Reiser,) does all his own work, whether in earth, plaster or marble, in the shop before the pupils, so that they are enabled to learn the technical execution of such work, and at the same time form their taste.

All these workshops have been open to the pupils during the whole day, excepting hours of instruction, and the masters have been constantly present.

METHOD PURSUED IN INSTRUCTION.

The instruction in the studies obligatory upon each division has consisted partly of drills (*répétitions*) exercises and practical demonstrations in the course of technical and scientific excursions.

Regular drilling exercises have been arranged, especially in the departments relative to mathematical and natural science. During most of these, as those in pure mathematics, descriptive geometry, mechanics, &c., numerous problems have been proposed in the course of the year, whose solution has in part been required of the pupils within a given time, in part left to their option, or examined by the professor and discussed with the pupils.

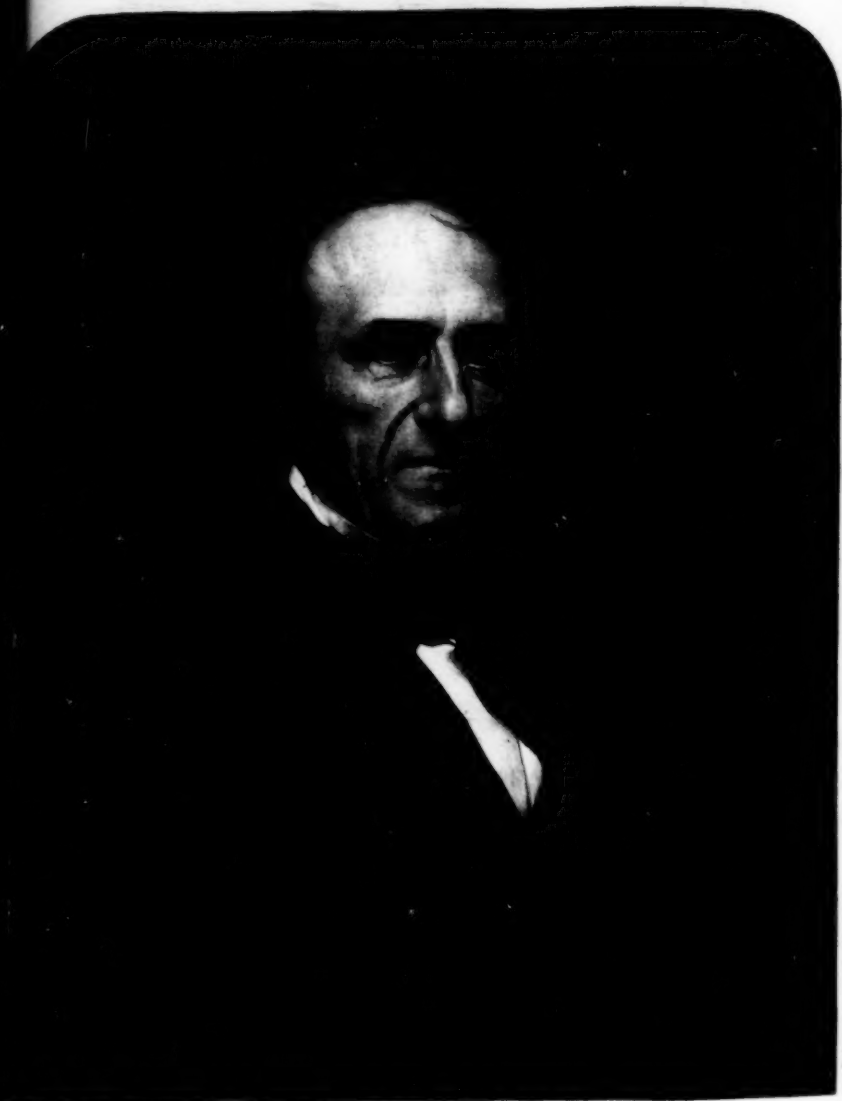
Among practical exercises, intended almost exclusively to stimulate the individual faculties of the pupils, are; those in design and construction, of the pupils of the schools of architecture, civil engineering and industrial mechanism; those in land-measuring, of the first year of the school of engineers, in which a whole day per week is employed; the manipulations in the analytical and technical laboratories; and the work in the shops. Pains have been taken to induce the pupils to spend most of their time not occupied in lessons, in the drawing-rooms, laboratories and workshops, and to consider them their own habitual places of labor.

But great hindrances to this plan have arisen from the great distance apart of the various departments of the school, which causes the loss of much time in the frequent comings and goings of the pupils, and from the fact that the timetable for study has not been arranged in a manner entirely satisfactory.

Excursions have from the first been regularly made with the pupils in the school of forestry, in the forests near Zürich. Prof. Marchand also took his pupils to the meeting of the Society of Swiss Foresters, which was held this year at St. Gall, that they might hear the discussions. Prof. Heer, has also regularly made short excursions, besides one long one, for the sake of instruction in botany. The pupils of the second year in the school of engineering have visited, under the direction of Prof. Calmann, besides the bridges near Zürich, the iron bridge over the Sitter near St. Gall, of which last they took drawings and measures in sufficient detail to enable them to execute, in the drawing-rooms, complete designs of that interesting work. The thanks of the institution are here offered to the engineers employed there, for their kind attentions to the professor and to his pupils.

A long excursion with a view to chemical and mechanical studies was undertaken by Profs. Bolley and Reuleaux, with the pupils of their divisions. They visited various places near the Rhine and above Basle, and returned by way of Basle and Aaran. In the course of this trip the pupils were enabled to examine a furnace and set of trip-hammers, a tin-work, a rolling-mill, a salt-work, a wood-gaswork, which was especially interesting to the pupils, as one had also been recently constructed at Zürich. They also examined a cement-kiln, a manufactory of chemicals, one of printed goods, silk spinneries, &c. The proprietors of these establishments, with a politeness which deserves our acknowledgements, allowed us to take many drawings in them.

A measure similar to that adopted by several other industrial institutions, is the establishment of monthly competitions at prescribed tasks. The regulations for these are contained in the annual programme.



ENGRAVED BY JOHN SARPTAIN.

Mark Hopkins

XVI. MARK HOPKINS.

MARK HOPKINS, D. D., LL. D., the fourth president of Williams College, was the eldest son of Archibald Hopkins and Mary Curtis, and was born in Stockbridge, Mass., on the 4th of February, 1802. The foundation of his vigorous character and attainments was laid in his early and thorough training in the family and district school. When about twelve years old, young Hopkins went to Clinton Oneida county, N. Y., where he passed a year in the family of his uncle, Dr. Sewall Hopkins. While here he attended Clinton Academy, and commenced the study of the Latin language. After leaving Clinton he worked on a farm, and pursued his studies mostly at home, receiving but little private instruction. For some months of this time he was the almost constant companion of Timothy Woodbridge, D. D., both in Green River and Pittsfield; reading to him and prosecuting his own studies to some extent. It was not the purpose of his father to send him to college, but to give him the profession of his grandfather; and accordingly at the age of seventeen, when he was nearly or quite ready to enter college, he was placed in the office of Charles Sedgwick, Esq., to study law. Here he became, after no long time, dissatisfied with his general attainments, and resolved to obtain, if possible, a public education. From that time, commencing with the district school in the neighboring town of Richmond, he alternately taught and studied until he became a member of Williams College the second term, sophomore year 1821-2, soon after the institution came under the presidency of Dr. Griffin. His studies were here prosecuted with uniform diligence and success. He early discovered a decided preference for metaphysical studies. His taste and skill in writing while in college was much admired. Some of his productions attracted much attention. One of these was his Oration at the junior exhibition, entitled "*Modern Chemistry—Revelation confirmed by its Discoveries.*" He was graduated in the fall of 1824, when he pronounced the valedictory oration on "The formation of a practical rather than a speculative character by literary men."

Directly after his graduation he became connected with the Medical Institution at Pittsfield. During the next spring and summer he taught an Academy at Stockbridge. In the fall of 1825, he was ap-

pointed a tutor in his Alma Mater, and officiated in that capacity for two years. The duties of his office were discharged with fidelity and success. During the first year of his tutorship there was a revival of religion in college which has been considered the most signal mark of divine favor the institution ever enjoyed. "That revival," said Dr. Griffin, "saved the college." It did settle its destiny. It led to efforts which resulted in putting the college on a permanent and prosperous footing. In that revival, those associate tutors, Harvey and Hopkins, took a prominent part, and their instrumentality was extensively felt. At the close of his tutorship, he delivered his master's oration, on "Mystery," which was published in Silliman's *Journal*, and has been twice republished. In the fall of 1827, he went to New York, where he resumed his medical studies, and devoted a portion of his time to teaching. At the end of the year he returned to Pittsfield, and continued his professional studies, and aided Prof. Dewey in a High School then recently established. He received the degree of Doctor of Medicine, at Pittsfield, in the fall of 1829. Early the next spring the professorship of moral philosophy and rhetoric in Williams' College had become vacant in consequence of the death of Prof. William A. Porter. At a meeting of the board of trustees, in August, 1830, Dr. Hopkins was unanimously elected to fill the vacancy. He had just completed his arrangements for a permanent residence in New York, but this event turned the whole current of his life into another channel. It gave him an opportunity to devote himself to teaching—a pursuit most agreeable to his taste and feelings. He accepted the appointment, and entered at once upon the duties of his office. He made a public profession of religion in 1826, uniting with the Congregational Church in Stockbridge. He was married to Miss Mary Hubbell, of Williamstown, December 25th, 1832. He was licensed to preach the gospel by the Berkshire Association at Dalton, May, 1833. He had never enjoyed the advantages of a regular course of theological instruction, but consented to apply for a license at the suggestion of friends, that he might be able to assist Dr. Griffin in supplying the pulpit, whose health at that time began perceptibly to decline.

At the Commencement in 1836, Dr. Griffin resigned the presidency of the college. This event was not entirely unexpected. Dr. Hopkins was unanimously elected his successor, and professor of moral and intellectual philosophy. This appointment was in perfect coincidence with the expectations of the students and the public. He had been designated as the most suitable candidate for the place. With the condition and prospects of the college, he had long been

familiar. He was an alumnus of the Institution. He had officiated two years as tutor, and six years as professor; during the latter part of which time, the instruction of the senior class was wholly committed to him. Having accepted the appointment on the 15th day of September, 1836, he was inaugurated president of the college, and ordained pastor of the College Church.

Dr. Hopkins received the honorary degree of D. D. from Dartmouth College in 1837, and from Harvard University in 1841, and that of LL. D. from the Board of Regents of New York in 1857. Dr. Hopkins was elected president of the American Board of Commissioners for Foreign Missions at Providence, Rhode Island, in the fall of 1857, then vacant in consequence of the resignation of the Hon. Theodore Frelinghuysen. Dr. Hopkins' interest in the Missionary, Bible, Education and Tract cause, has ever been earnest and efficient. Whenever called upon to advocate the cause of these philanthropic enterprises, his able and earnest pleadings in their behalf have not been withheld.

To all the urgent invitations which he has received to occupy other posts of usefulness, his uniform reply has been, "*I dwell among mine own people.*"

The president of a college is placed in a peculiar and responsible position. He is the representative of the institution. He stands at the head of an intelligent and influential Board of Trustees. He has an opportunity which, perhaps, no other man has of impressing his character on the age in which he lives, through the influence of those who come under his example and instruction. To do this to the best advantage, he must have the respect and confidence of the surrounding community—of society at large. He must possess sufficient weight of character to reconcile the claims and secure the coöperation of the subordinate officers. He must be able to conduct a college through scenes of special exigency and trial. He must be qualified to guide the studies of an ardent and aspiring class of young men through the last stages of their college course, and to do it thoroughly and well. The successful government of a college is a task of no ordinary difficulty. College students come from different states; they differ in age, in attainments and disposition. Some are under a strong moral influence, while others are ready to do what they can to weaken that influence. Now the president must be a kind of parent or guardian to all the young men in college. He must give attention to all their wants, real or imaginary. He must be able to turn promptly from one engagement to another. Students while in college have a claim, not only to the stated instructions of the lecture-

room, but to all that can be done for their preservation from vice and indolence, and for their advancement in morals and religion. No college will be what it can be, and what it *ought* to be, unless the officers give personal attention to the students. It is a principle adopted and acted upon by Dr. Hopkins, that personal attention to the intellectual and moral improvement of students will do more to promote the peace, order and usefulness of a college, than all the pains and penalties of the strictest code of laws. Occasionally students have wasted their time and contracted evil habits, which might have been prevented by a few words of timely and affectionate advice. Dr. Hopkins has ever been the friend and adviser of students; not unfrequently calling at their rooms for the purpose of imparting words of kind advice and admonition, respecting their health, their studies and their deportment. There can be no higher or more gratifying evidence of his rare qualifications to stand at the head of a college, than the successful results, which a presidency of twenty-five years, have furnished.

During the presidency of Dr. Hopkins, the course of study in Williams College has been pursued on a much more extended and liberal scale than before. The public has not been fully aware of the amount and diversity of the labors he has performed. He has discharged at least the duties of two officers. He hears the morning recitation of the freshman class for a short time at the opening of every college year. In this way he becomes personally acquainted with the members of every class at the commencement of their college course, and never forgets them. He has uniformly given instruction to the senior class in anatomy and physiology, metaphysics and ethics, and until quite recently, in the department of rhetoric, besides preaching one-third of the time on the Sabbath. Since the commencement of the term in January, 1860, the students have attended public worship in the chapel, and Dr. Hopkins is in the habit of preaching to them every Sabbath morning. On Saturday forenoon the senior recitation is theological, the Assembly's Shorter Catechism being the text-book. Perhaps no recitation in college is more highly prized, nor has proved more beneficial to the students. It is interesting to know that they have more than once requested that this recitation be continued one hour and a half instead of one hour. This is probably the only college in the land that retains the catechism as a text-book. Before public worship was attended in the chapel on the Sabbath, Dr. Hopkins uniformly appeared in the college conference room on Saturday evening as the college pastor. His exercises on these occasions comprised a series of lectures, in which were happily blended doc-

trinal discussions, with close and affectionate appeals to the heart. And these lectures have contributed in no small degree to give the college its deep religious character.

Dr. Hopkins' system of discipline is his own. His opinion is, that "the end of a college is education—there should therefore be no regulation or restraint which is not subservient to that end; and when it becomes necessary to enforce those regulations that are thus subservient, it would be treason to the cause of education not to do it at any sacrifice whatever." "That college is in the best state in which the least government is necessary." "It is always unfortunate when much is thought or said about government."

The revivals of religion which have occurred in Williams College during the presidency of Dr. Hopkins, have been repeated and powerful. But on this topic we can not dwell in this connection, nor on the temporal prosperity which the college has enjoyed since 1836. In that year the Astronomical Observatory—the first building exclusively for that object in the country—was erected. Since then, Lawrence Hall, Kellogg Hall, Jackson Hall, Alumni Hall, and the new Chapel, have been erected, and expensive alterations and improvements have been made in other buildings, especially in the Old West College, and in Griffin Hall.

If our limits would permit we should be glad to speak of the additions which have been made to the college grounds, to the libraries, the philosophical and chemical apparatus, and of the enlargement of the productive funds of the college. It would be equally pleasant to show the honorable position the college has taken in the department of Natural History. Williams College has now been incorporated sixty-eight years. The present year completes twenty-five of the presidency of Dr. Hopkins. Before 1836, eight hundred and sixty-one students had been graduated, nine hundred and forty-eight since. When the presidency of Dr. Hopkins commenced, the whole number of students was one hundred and nineteen. The college now numbers not far from two hundred and forty. This is a large increase considering the close proximity of Williams to similar institutions.

In the year 1858, Mr. Jackson, of New York, established a professorship of Christian theology in Williams College, and Dr. Hopkins was appointed for the chair. It was the purpose of Mr. Jackson that those who desired to study theology professionally without going through the full course prescribed by the seminaries, should have the opportunity of doing so at this college. It is intended that such opportunity shall hereafter be given.

It is an established custom for Dr. Hopkins to deliver a Valedictory

discourse on the Sabbath preceding commencement to the candidates for the bachelor's degree. No part of his ministerial services has attracted more public attention or met with more general favor than the sermons delivered on these occasions.

Dr. Hopkins is extensively known as an author. Among his publications the most important are his lectures on the "*Evidences of Christianity*," delivered before the Lowell Institute, Boston, in the winter of 1844, and which have already become a text-book in some of our colleges. In 1847, twenty-two of his discourses, which had previously found their way to the press, were republished in one volume. His course of Lectures on Moral Philosophy which were delivered before the Lowell Institute in Boston in 1860-1, it is hoped will soon be given to the public.

The following is a list of Dr. Hopkins' publications :—

- Agricultural Address at Stockbridge, 1837.
- Oration—"Mystery," 1837.
- Review of the Argument from Nature for the Divine Existence, 1838.
- Human Happiness, 1834.
- Oration—"Originality," 1835.
- Inaugural Discourse, 1836."
- Address at Andover, 1837.
- Two lectures—"Taste and Morals," 1837.
- Sermon in Commemoration of Dr. Griffin, 1837.
- Address before the American Education Society, 1838.
- Election Sermon, May, 1839.
- Address before American Bible Society, 1840.
- Address at South Hadley, (Mount Holyoke Female Seminary,) 1840.
- Address at Pittsfield, (Medical College,) 1840.
- Address at East Hampton, (Williston Seminary,) 1841.
- Alumni Address at Williamstown, 1843.
- Sermon before the Pastoral Association, Boston, 1843.
- Sermon at the Berkshire Jubilee, 1844.
- Sermon before Massachusetts Convention, 1845.
- Sermon before the A. B. C. F. M., Brooklyn, N. Y., 1845.
- Lowell Lectures on the Evidences of Christianity, (octavo volume,) 1846.
- Temperance Address, (for circulation in Massachusetts,) 1846.
- Sermon Commemorative of Professor Kellogg, 1846.
- Sermon at Plymouth, December 22d, 1846.
- Sermon before the American Sabbath Union, 1847.
- Sermon at Dedication in Pittsfield, 1850.
- Baccalaureate Sermon—"Faith, Philosophy, and Reason," 1850.
- Baccalaureate Sermon—"Strength and Beauty," 1851.
- Baccalaureate Sermon—"Receiving and Giving," 1852.
- Address before the Western College Society, Boston, 1852.
- Sermon Commemorative of Amos Lawrence, 1853.
- Oration—"The Central Principle," New York, December 22d, 1853.
- Discourse before the Congregational Library Association, 1855.
- Baccalaureate Sermon—"Perfect Love," 1855.
- Baccalaureate Sermon—"Self-denial," 1856.
- Address at Missionary Jubilee, 1856.
- Sermon—"Science and Religion," Albany, N. Y., 1856.
- Baccalaureate Sermon—"Higher and Lower Good," 1857.
- Sermon—"The Promise to Abraham," Bangor, Me., 1857.
- Baccalaureate Sermon—"Eagles' Wings," 1858.
- Address at Havana, N. Y., 1858.
- The Atonement as related to Sin, and to a Divine Lawgiver—*American Theological Review*, 1859.
- Baccalaureate Sermon—"The Manifoldness of Man," 1859.
- Religious Teaching and Worship—a Sermon at the Dedication of the College Chapel, 1859.
- Baccalaureate Sermon—"Nothing to be Lost," 1860.

In the numerous occasional discourses which he has been called on to prepare and publish, Dr. Hopkins has expressed his views on a great variety of educational topics, specimen of which we give below.

EDUCATION.

Inaugural Discourse, 1836.

By education, I mean, not merely formal instruction, but any system of excitement or restraint the object of which is to effect some definite change in the physical, intellectual, or moral character of man. The term, I know, is often used, in a broader sense, to include every thing in external nature, and in the circumstances of the individual, which can exert an influence upon him, whether intended to exert such influence or not. That there are circumstances in local situation, and in the structure of society, the influence of which can not be avoided, and which yet often control the character and destiny of the young, there can be no doubt. Climate, the form of government, childhood spent in the city or in the country, in luxury or in poverty, and perhaps more than all, early and casual impressions caught from first associates, operate imperceptibly, but irresistibly, in modifying and giving variety to character. But though the influence upon the mind of causes beyond our control, may be an interesting subject of speculation, just as is the influence of gravity on matter, and though these causes may form a part of that tutelage under which in the providence of God his creatures are put, and we may, if we please, call it the education of circumstances, yet if we regard the common use of language, or if we would define a practical science, we must include in the term Education, only those circumstances over which we have a control, and which we can and do bring to bear upon man with the intention of effecting a particular end.

But whether we consider education as comprising more or less, or whatever division we may make of it, the general principle which we are to regard, especially in its second part, which is positive instruction, is now settled among all thinking men. It is, that we are to regard the mind, not as a piece of iron to be laid upon the anvil and hammered into any shape, nor as a block of marble in which we are to find the statue by removing the rubbish, nor as a receptacle into which knowledge may be poured; but as a flame that is to be fed, as an active being that must be strengthened to think and to feel—to dare, to do, and to suffer. It is as a germ, expanding, under the influence certainly of air and sunlight and moisture, but yet only through the agency of an internal force; and external agency is of no value except as it elicits, and controls, and perfects the action of that force. He only who can rightly appreciate the force of this principle, and carry it out into all its consequences, in the spirit of the maxim, that nature is to be conquered only by obeying her laws, will do all that belongs to the office of a teacher.

SELF-EDUCATION.

Inaugural Discourse, 1836.

We hear much said about self-educated men, and a broad distinction is made between them and others; but the truth is, that every man who is educated at all, is, and must be, self-educated. There are no more two methods in which the mind can make progress, than there are two methods in which plants can grow. One seed may be blown by the winds, and cast upon the southern, or perchance on the northern side of some distant hill, and may there germinate, and take root, and do battle alone with the elements, and it may be so favored by the soil and climate that it shall lift itself in surpassing strength and beauty; another may be planted carefully in a good soil, and the hand of tillage may be applied to it, yet must this also draw for itself nutriment from the soil, and for itself withstand the rush of the tempest, and lift its head on high only as it strikes its roots deep in the earth. It is for the want of understanding this properly, that extravagant expectations are entertained of instructors, and of institutions; and that those who go to college sometimes expect, and the community expect, that they will be learned of course—as if they could be inoculated with knowledge, or obtain it by absorp-

tion. This broad distinction between self-educated men and others has done harm; for young men will not set themselves efficiently at work until they feel that there is an all important part which they must perfect for themselves, and which no one can do for them.

CHIEF EXCELLENCIES OF A TEACHER.

Inaugural Discourse, 1836.

And I here mention, that from this view of the subject, it is easy to see what it is that constitutes the first excellence of an instructor. It is not his amount of knowledge, nor yet his facility of communication, important as these may be; but it is his power to give an impulse to the minds of his pupils, and to induce them to labor. For this purpose, nothing is so necessary as a disinterested devotion to the work, and a certain enthusiasm which may act by sympathy on the minds of the young. It is from the decay of this that courses of lectures and of instruction, once attractive, often cease to interest. When a teacher has advanced so far beyond his class, or has become so familiar with his subject, as to feel no interest in its truths, then, however well he may understand them, and however clearly he may state them, he is not all that a teacher ought to be. He who carries the torchlight into the recesses of science, and shows the gems that are sparkling there, must not be a mere hired conductor, who is to bow in one company, and bow out another, and show what is to be seen with a heartless indifference; but must have an ever living fountain of emotion, that will flow afresh as he contemplates anew the works of God and the great principles of truth and duty. This is no more impossible in regard to the beauties and wonders which science discloses, than it is in regard to the more obvious appearances of nature, and the instructor may adopt in spirit the words of the poet—

"My heart leaps up when I behold
A Rainbow in the sky;
So was it when my life began;
So is it now I am a Man;
So be it when I shall grow old,
Or let me die!
The Child is Father of the Man;
And I could wish my days to be
Bound each to each by natural piety."

It is such an one alone who can know the pleasure of carrying forward a class of ingenuous youth, and watching them as they gain new positions, and take in wider views till the whole prospect is at their command. And when, as sometimes happens, he has a class of an opposite character, and his instructions fall dead, and no interest is excited, it is he alone who can know the anxiety, I had almost said agony, with which, as the prophet of old upon the dead body of the child, he once and again as it were puts his mouth to its mouth, and his eyes to its eyes, and stretches himself upon the class, and finds no life come. And he alone knows how cheerless and hopeless and slavish is the dull routine of his labors after that. There are, it seems to me, few modes of gaining a living short of actual villainy, which a man of sensibility would not prefer to it.

FEMALE EDUCATION.

Address at Anniversary of Mount Holyoke Seminary.

Important as female education is now admitted to be, it is not perhaps surprising that it did not receive early attention. Men attack evils as they find them, without first investigating secret influences and remote causes. It was natural, for instance, that intemperance should first be attacked as it existed in the temperate, before it was traced back to its source in temperate drinking. And so it was natural that mankind should first attempt to control the waters of society as they found them flowing on, impetuous and turbid, before tracing them up to their source and purifying the springs from which they flowed.

This attempt has been made from the beginning and is still made. It is not even yet understood how true it is, in the body politic as well as in the natural body, that "if one member suffer, all the members suffer with it," that if one portion of the community be enslaved, or oppressed, or degraded, there will be sown

indirectly the seeds of vice, of debility, and of ultimate dissolution; and especially, that if those who hold to us the relations of wives, and mothers, and daughters, and sisters, are restricted, or cramped, or in any way prevented from receiving that expansion of the intellect and of the affections which will enable them to exert an elevating and a purifying influence upon man, society can not reach its full stature and perfection. It is not understood how high those qualities of the intellect and of the heart are, which are needed for the right management of the young, how much light and how much love must shine around the opening bud of early childhood that it may expand in fair proportions; it is not understood how early the ductile material of character begins to grow rigid, so that before the age of eight, or even of six, it generally assumes lineaments to which subsequent life only serves to give greater prominence. In forming that material, *man* can not do what ought to be done, he can not undo what *will be* done by a mother who is ignorant or weak, or selfish or unprincipled; and whatever influence he may wish to exert, will be far more efficient if he has the coöperation of one who can enter fully into all his views—just as the oak will cast a shade that is deeper and more refreshing if the vine that adorns it mingles its leaves with those of every branch, and entwines itself to the topmost bough.

But these truths are beginning to be understood and felt, and there are probably more persons now than ever before, who feel that if we are ever to do any thing effectual for the improvement of society, the proper place to begin at is the beginning—that the influence that presides over the cradle, and the nursery, and the fireside, must be a right influence.

EDUCATION IN CONNECTION WITH NATURE AND RELIGION.

Address at Missionary Jubilee, 1856.

No service can be rendered to education so great as to bring it into a closer and more vital connection with religion, and through that, with some form of great and heroic action. But the educating power of an institution is not solely from what that institution is at any given moment—from its buildings, its apparatus, its libraries, its teachers; it also lies much in the influences of nature and of society around it; in the memories of the past, and in its connection with great interests and events. No man worth educating, ever passed through this College without being in part educated by these great mountains. Greylock is an educator. They are of a style and an order of architecture that is very ancient, and, though they cost nothing, are worth more than any ever devised by man. We do not wish to educate merely the intellect, but also the moral nature; to control the associations and to reach the springs of action. Surely there must be a legitimate use of association in education, not superstitious or idolatrous; and we wish to associate literature and science with all that is beautiful and grand in nature, and all that is pure and elevating in religion. We wish to link in minds of the highest culture, sentiments of veneration and honor with humble prayer, and with devotion to the cause of Christ. Oh, sir, if this could but be, if indolence and vice could but be banished from this College, if there could be here two hundred and twenty young men, fully receiving the influences of nature which God has spread around them, and fully yielding themselves to the power of that religion which he has revealed, I would not exchange my position for any one upon earth.

ACADEMIES.

Dedication of Williston Seminary, 1841.

If this institution prepares better teachers for the common schools, they will send back to it scholars better prepared, and it may be able, after a time, to relinquish to the common school some of its branches, and to elevate its own course. If, again, it sends scholars to college better fitted, college, to say nothing of other and indirect benefits, will send back to it better instructors, and may, in its turn, be able to relinquish to it some part of its course. This process has, indeed, gone on to some extent within my remembrance, but it needs to go much farther. I see no other way in which our general system of education can be elevated. We need, and must have, institutions like this, which shall give a thorough preparation for college in the English as well as classical department, and which shall

not only be thorough as far as they go, but shall carry the student much farther than he now goes in them. I see no difficulty in it, and I hope to see the day when almost all that is now studied in the freshman class in college, especially in languages, shall be required for admission, and shall be thoroughly taught in schools like this. This would relieve the colleges from the heavy load they are obliged to drag when the classes are poorly prepared, and would give them time, not only to be more full and thorough in their present branches of science, but to introduce new ones as the wants of the age may require.

MEDICAL SCIENCE.

Address to Medical Class at Pittsfield, 1840.

The principal of life then, lies at the foundation of the science of medicine; but it is to be studied as manifested in this wonderful range of productions only by the physician? Certainly not. We might as well say that no one should study the science of music except those whose business it is to repair musical instruments. In its regular manifestations the principle of life presents itself as one of the great principles of nature, inviting equally with gravitation, or light, or magnetism, or electricity, the study of every liberal and inquiring mind. This I know has not been so regarded, but it is coming to be so more and more. It ought, at least, to enter somewhat largely into every course of liberal education, and I trust that in one college at least, more will be done with reference to it than has been done.

On this point physicians themselves have perhaps been in fault, or at least have misjudged. They have been inclined to regard the whole domain as their own, and to publish books, especially on human physiology, solely for the use of the profession. This, however, has been much less the case within the last few years, and the change can not fail to be advantageous both to the public and to the profession. It will be advantageous to the public, because, by giving them a knowledge of the laws of health, which are nothing more than the conditions on which the principle of life will act with regularity, much disease will be prevented; and it will be of advantage to the profession, because it will furnish the only possible guard against the prevalence of quackery, which is found to deposit its eggs and mature its growth upon ignorance alone. Nor would it encroach upon the proper province or science of the physician, if the whole of physiology were well understood by the community; for though the principle of life lies at the foundation of the science of the physician, yet if it were like gravitation, and never irregular in its action, there would be no physicians or science of medicine. The laws of life manifested in regular action ought to be understood by every body, so far at least as is necessary to preserve health. It is only as it manifests itself in diseased action, that the principle of life lies at the foundation of medical science. Diseased action, and the means of controlling it—diseases and remedies—these are the appropriate subjects of the study of the physician.

As a prerequisite to the knowledge of diseases, anatomy and physiology are necessary; to the knowledge of remedies, chemistry and botany. No physician can be fully qualified to practice his profession unless he is acquainted with these sciences; and the field of observation and of general cultivation to the mind which they open is so wide, that from its connection with them, if from nothing else, the profession of medicine would be entitled to the rank of a liberal profession.

THEOLOGICAL EDUCATION.

Address before Porter Rhetorical Society, Andover, 1837.

In its literal signification, and in its highest character, the Gospel is good tidings; and it is the grand business of those who preach it, to commend it as worthy of all acceptance to them that are lost. Nothing can compensate in a preacher for the want of a heartfelt conviction of the ruin of man, and that the Gospel is the all-sufficient and the only remedy; and nothing can excuse him if he do not urge the acceptance of this remedy upon his fellow-men with his utmost force of intellect and energy of feeling. His appropriate office is to preach the Gospel of peace, to bring glad tidings of good things, to stand as an ambassador for Christ, and to beseech men in his stead to be reconciled to God.

But though this is the chief, it is not the only relation which the preacher holds to society, for, as the light of the sun not only reveals to us the azure depths from which it comes, but also quickens vegetation into life and spreads a mantle of beauty over the earth, so does the Gospel of Christ not only reveal our relations to God and the heaven which is to be our home, but it is spread over all the social relations, and is an essential element in the production of that moral verdure without which society would be a waste. Where the Sun of Righteousness shines, the whole soil is meliorated. The hemlock and the night-shade grow less rankly, the natural affections expand more fully and shed a sweeter fragrance, and the seed sown bears fruit for this life as well as for that which is to come. The system which the preacher advocates is therefore not isolated and arbitrary; it is not a foreign and discordant mass, thrown into society and fitted only to be a source of terror to some, of ridicule to others, and a curse to all; but it has relations to the works of God, to the social and political well-being of man, to the secret thoughts and hidden structure as well as to the future destiny of the soul. It is only in the atmosphere of a pure Christianity that social man can attain his true stature. In this he moves and respires freely; while every other system is like an atmosphere more or less deprived of its vital principle, and lies like an atmosphere more or less deprived of its vital principle, and lies like an oppressive and suffocating weight upon him. As well then may the natural philosopher rest satisfied with his knowledge of the literal atmosphere as the breath of life, and disregard its connection with vegetation, and its use in evaporating water and reflecting light and conveying sound and facilitating commerce, as may the student of Christianity consider it simply in its relation to another world, without regarding its connection with the works of God, and its present influence on the well-being of society.

OBJECTIONS TO COLLEGES.

Inaugural Discourse, 1836.

And first, it is objected that colleges destroy physical vigor. There has, no doubt, been ground for this objection. From its local situation, this college has probably suffered less in this way than some others, and there has been here, especially of late, comparatively little failure of the health. Something has been done, but there is still room for improvement. It ought, however, no more to be expected that the student should have the same robustness of frame and muscular vigor as the laboring man, than that the laboring man should have the same intellectual cultivation as the student. But the truth is that students, in common with other classes of the community, not only do not exercise enough, but they live in the constant violation of all the rules of dietetics. Some have used, and still use, intoxicating drinks; a much larger number use tobacco; some are constantly eating dried fruits and various kinds of confectionery; many eat too much; many sit up late under the excitement of novel reading, and perhaps for study. Let their food be of proper quantity and quality, let them avoid poisonous and narcotic substances, let them keep regular hours, and shun the predominance of an excited or polluted imagination; and they will find that there is an elasticity in the human frame that requires exercise. Nor need it be aimless exercise. Let them saw their own wood, let botany and mineralogy lead them over the hills, let them cherish a love of fine prospects, let them cultivate the taste and manly spirit that have originated and carried forward so happily in this college, the horticultural and landscape gardening association; and there will be cheeks as fresh, and limbs as agile, and animal spirits as buoyant, as if they spent three hours a day in a workshop, and, (which would be necessary in some of our institutions,) as if a thousand dollars a year were expended to enable them to do something useful. It has been a fault, which I trust will be avoided here, that this subject has not been sufficiently urged upon students in the early part of their course.

Again; it is objected that colleges are not practical. There are some who seem to be slow in understanding what is meant by the discipline of the mind, or mental training, as if it were different in its principle from a military drill, in which a series of actions is performed, not so much for its own sake as a preparation for the future battle. It is true the discipline must be such as will fit them for the combat. We must not put bows and arrows into their hands when they

will have to use the cartridge-box and the musket—but discipline there must be. We are indeed to consult utility, but it must be in its highest and broadest sense—not that eager utility which would cut down the tree for the sake of sooner getting its fruit, its unripe fruit; but that far-sighted utility, which would plough a crop under for the sake of benefiting the soil, and which would look forward to the coincidence of its plans with the high purposes of God in the creation of man. But if there are any who never make a distinction between general and professional education, who look upon man solely as a being who is to be fitted to make money in some particular sphere, and not as one who has faculties to be perfected, to them I have nothing to say.

Again; it is objected that colleges do not keep up with the spirit of the age. This objection probably does not always assume a definite form in the minds of those who make it. But if it be intended that improvements in the sciences are not ingrafted, as they are made, upon the scientific courses, or that new sciences are not introduced as the wants of the public demand; if it be intended that there is an adherence to things that are old because they are old—then, however much ground there may have been for the charge formerly, and especially in England, from which this complaint is mostly imported, I do not think there is any ground for it now. It is within the memory of our older graduates that chemistry, and geology, and mineralogy, and botany, and political economy, were either not taught at all, or scarcely at all, in the college course. These have been introduced as fast as the sciences have become so mature as to furnish good textbooks; and now if the public will furnish us the means, we shall be glad to introduce more of modern languages, and something on constitutional law, which we intend to introduce, and perspective, and civil engineering.

Again; it is objected to colleges that they are aristocratic. Besides those who form no theory of society, there are two classes who would be thought to aim at the perfection and perpetuity of republican institutions, but their methods are directly opposite. The one can conceive of no improvement except by leveling every thing down—and probably there always will exist in every community a sediment of such people, whose uneasy malignity, manifesting itself in a pretended zeal for republicanism, nothing but a return of society to a savage state could satisfy. The other class do what they can to level up. And if there be one of these who imagines that colleges are not coöperating with him, it is because he is entirely ignorant of the facts. Must men be told at this day that the diffusion of knowledge is the only safety of republican institutions? Or are they ignorant that without higher seminaries the lower can never be sustained in any efficiency? Or that if there were not some institutions like colleges, to make education cheap, we should soon have an aristocracy of knowledge and refinement as well as of wealth? On this subject there is a mistake in regard to two points. One respects the class of persons who go to college. While a portion of these are sons of wealthy men, the great mass are the sons of clergymen, and farmers, and tradesmen, who feel that an education is the best patrimony they can bestow upon their children, and who are unable to give them even that, unless they assist themselves in part by teaching. The most of those therefore who graduate at our colleges spend no inconsiderable portion of time, either before or after graduating, in teaching, and thus diffusing the blessings of general education. The other point on which there is a mistake, respects the real extent to which the cost of education is diminished. At this college a young man receives instruction, and has the use of the buildings, and library, and apparatus, and cabinet, and pays the college but about thirty-three dollars a year. The whole necessary expense per annum is less than one hundred dollars; a sum quite insufficient to maintain a boy in a common family school. In addition to this, we have funds bestowed by benevolent individuals, which enable us to appropriate something to meet the bills of those who promise to be useful but are not able to pay so much. Still the whole expense is greater than is desirable, and if our funds would permit it we would gladly make it less. It thus that the poor man who has no farm to give his son, can give him an education, which, if he is a suitable person to be educated, is better. He is thus enabled to start fairly in the race of competition with the sons of the wealthy. In a class in college, each is on a perfect equality with the rest, and must stand on his own merits; and if the son of the rich should happen to have the advantage in previous training, he may yet find that he will have as much as he will care to do to maintain it in the

field of open competition; and often when he does his best, much more if he become vain or frivolous or self-indulgent, will he find himself left behind by the stern efforts of those who feel that they must depend on themselves alone. Surely he who would tax and cripple colleges, would tax and depress general education, and keep down the people.

The last objection against colleges which I shall notice, comes from another quarter, and is, that they do not teach manners. And it must be confessed that this is not one of those things for which we give a diploma. Good manners certainly ought to exist and to be acquired in colleges, and more ought to be done on this point than is done. Still there are difficulties in the way which will be appreciated by every sensible man. In the first place, manners can not be taught by direct inculcation; they must mainly depend on parents and on associates during the earlier years of life. Again, many of those who come to college are of such an age that it would be impossible to remodel their manners entirely under the most favorable circumstances. They seem to have lost the power, which indeed some never had, of perceiving the difference between the easy intercourse of good fellowship which is consistent with self-respect and respect toward others, and a coarse familiarity which is consistent with neither. There is further a sentiment often prevalent among young men, than which no mistake could be greater, that manners are of little importance, and that to be slovenly and slouching, and perhaps well nigh disrespectful, is a mark of independence. But after all, college is not, in some respects, a bad place to wear off rusticity and break down timidity. And if those who make the complaint could see the transformation and improvement which really take place in many, I may say in most instances, in a college course, they would perhaps wonder that so much is accomplished, rather than complain that there is so little. Still, when a young man comes with a frame of granite rough from the mountains, or as rough as if he came from them, and has seen perhaps nothing of polite society, and knows nothing of polite literature, it can not be expected that he should learn during his college course the manners of the drawing-room, or the arbitrary forms of fashionable etiquette. If he shall possess, as perhaps such men oftenest do, that higher form of politeness which consists in respecting the feelings of others and consulting their happiness, and we can send him into the world with a sound head and a warm heart to labor for the good of the world, we shall be satisfied, and the world ought to be thankful. Such men often become the pillars of society.

EMOTIONS OF TASTE MODIFIED BY OUR VIEWS OF GOD.

Lecture—Connection between Taste and Morals.

And if the emotions of taste are thus modified by our views of man, how much more must they be by those respecting God! How must a blank atheism hang the heavens in sackcloth, and cover the earth with a pall, and turn the mute promissings of nature into a mockery, and make of her mighty fabric one great charnel-house of death without the hope of a resurrection! On the other hand, how must the beauty and sublimity of nature and of the universe be heightened, the moment we perceive them in their connection with God! Nothing is more common than to hear those, who emerge from that practical atheism in which most men live, speak of the new perceptions of beauty and sublimity with which they look upon the works of nature.

All our investigations into nature show that man has no faculties to which there are not corresponding and adequate objects. As infinite as he is in reason, yet the works of God are not exhausted by the operations of that reason: no intellectual Alexander ever sat down and wept for the want of more worlds to conquer. As vast as is his imagination, the revelations of astronomy, as sober facts, go beyond any thing that the imagination had conceived. And is it so, that, in the region of taste alone, the faculties of man have no adequate object? But it is only when nature, like the Bible, is seen to be full of God, that she is clothed with her true sublimity. It is only when "the heavens declare the glory of God, and the firmament sheweth his handy work," that they correspond to the highest conceptions either of the taste or of the intellect. Man rests in the Infinite alone, and the universe without a God is not in harmony with his constitution, even when he is considered as endowed with taste only. But if our views on moral subjects thus modify the emotions of taste, it can not be doubted that those emotions react upon our moral views, tending to elevate and purify them.

NOTE.

GENEALOGY OF THE HOPKINS FAMILY

The name of Hopkins is of Puritan origin. Stephen Hopkins came to Plymouth, Mass., in the Mayflower. Edward Hopkins arrived in Boston in 1637. The following outline is supposed to be correct.

I. John Hopkins, an ancestor of the president and a kinsman of the two just named, settled in Cambridge, Mass., 1634, and removed to Hartford, Conn., with Mr. Davenport and others, in 1636.

II. Stephen Hopkins, only son of John, resided at Hartford.

III. John Hopkins, eldest son of Stephen of Hartford, settled in Waterbury, Conn.

IV. Timothy Hopkins, the fourth son of John of Waterbury, married Mary Judd of that place. Their children were, Samuel, (the Divine,) Timothy, Huldah, Hannah, Sarah, James, Daniel, Mary, and Mark. Samuel, the first named, graduated at Yale in 1741, and was the first minister who settled in Great Barrington, Mass. He afterwards published a system of divinity.

V. Mark Hopkins, the youngest brother of Samuel, was born at Waterbury, Conn., Sept. 18, 1739, graduated at Yale College in 1758, and was the first lawyer who settled in Great Barrington; and early rose to eminence in his profession. In 1765 he married Electa Sargeant, a daughter of the Rev. John Sargeant, the first missionary to the Indians in Stockbridge. In the revolutionary war he distinguished himself as a patriot. He entered the army as a colonel. He was taken sick at White Plains, N. Y., where he died, October 26th, 1776, in consequence of exposure during his removal to a place of supposed safety, only a day or two before the memorable battle of that place, at the early age of 37.

VI. Archibald Hopkins, the oldest son of Col. Mark Hopkins, settled as a farmer in Stockbridge, and died in 1839, aged 73.

VII. Mark Hopkins, president of Williams' College, was the eldest son of Archibald Hopkins. His mother, before her marriage, was Mary Curtis, a native of Stockbridge, and a woman of uncommon strength and excellence of character. She is still living, [1861.] She was present at the first Commencement in Williams College, in 1795, when four young men—three from Stockbridge and one from Lenox—received the first academic honors of the college. Electa Sargeant, the grandmother of President Hopkins, was a daughter of the well-known Missionary Sargeant, and a niece of Ephraim Williams, the founder of Williams College. Sargeant, the missionary, married a half sister of Ephraim Williams; so that President Hopkins is a lineal descendant of the first Williams family that settled in Berkshire county.

XVII. PUBLIC INSTRUCTION IN BADEN.

II. SECONDARY SCHOOLS.

THE classical schools (*Gelehrtenschulen*), also called Intermediate or Secondary Schools, as standing between the common schools and the university, are "to follow their general object of the religious, moral, and intellectual training of youth, to such an extent, and in such directions as will thoroughly prepare their pupils for learned vocations, and more immediately for the university." They are all state institutions. They are dependent upon ancient endowments, and, as these are not usually sufficient, upon State appropriations in aid. The parishes contribute only to the higher burgher schools, not to the classical schools proper. Private schools of this grade may be erected by the consent of the authorities, and must be under their supervision; but there are no such of any importance, except perhaps the Bender Institute, at Wertheim, which is not exclusively, and indeed not principally to be ranked as a classical school. Each classical school has its treasury, into which are paid the revenue of its endowment, the state appropriation and the tuition fee. This treasury is managed by a cashier or accountant, under the supervision of the two High Church-Councils, and under the immediate oversight of an administrative council, consisting of a High Church-Councilor, as president, (who is commonly an official), the director and a teacher of the institution, and two inhabitants of the town. The amount of the tuition fee is (within certain regulated limits) fixed for each institution, by the superior council of studies (*Oberstudienrath*); and is, in the three lower classes, from 12 to 20 florins, in the three upper from 20 to 30 florins. Each pupil also pays at entrance a fee of 1 florin 21 kreuzers to the library of the institution, and at entering the highest class, may, if the institution needs it, be taxed from 2 florins 42 kreuzers to 5 florins 24 kreuzers for the collection of mathematical and physical apparatus.

All the classical schools have a confessional or denominational designation, according to that of their endowment. The teachers belong to this confession, the funds are under the authority of its High Church-Council, and the religious instruction is of its principles. Thus, the lycea of Constance, Freiburg and Rastatt, are catholic; those of Carlsruhe and Wertheim, evangelical; those of Mannheim and Heidelberg, mixed. In the mixed institutions, the direction changes either, as at Heidelberg, every two years, between a catholic and a protestant direc-

tor, or, as appears to be the case at Mannheim, an evangelical and a catholic director, alternately, is appointed for life. Those in the confessional minority at all these schools receive their regular religious instruction from clergymen of their own confession, either appointed for the purpose, or under the supervision of the city clergy.

The immediate management of the school is in the hands of the director, who is usually one of the oldest of the instructors in classical philology. With him is associated the conference of teachers, which includes all the teachers of the institution. This body has charge of the periodical examination of the pupils, the distribution of rewards, the consideration of dismissals of pupils, the arrangements for public examinations, dismissals to the university, outlines and details of plans of study, proposals for supplies, &c. All other duties of management belong to the director alone, especially all correspondence with the higher authorities. There is also in each institution an "Ephorus;" an officer with very indefinite and general authority. This officer is a higher public official or instructor in the university. He is "together with the teachers to watch over the maintenance of lawful order and the moral condition of the school, and to labor for the same with all his ability and influence." They are sometimes to attend the Teachers' Conferences. There are no district authorities for the classical schools. The central authority is the High Council of Studies. This body has charge of watching over the fulfillment of the laws and ordinances relative to the classical and higher burgher schools, approving plans of study, examining schools, receiving teachers into office, official police authority over the teachers personally, and propositions for the appointment, promotion and dismissal of teachers of those classes of schools. They have not the management or oversight of funds, which is reserved to the two High Church-Councils. They consist of a specially appointed member of the ministry of the interior, as chairman, two clerical councilors, one from each of the High Church-Councils, and two practical educators, one of each confession. So far as concerns the two ecclesiastical councilors, the influence of the High Council of Studies; through them was decidedly catholic in tendency; for the protestant philological High Councilor of Studies was at first the director of the lyceum at Carlsruhe; an officer who on account of his numerous other employments could give but a small portion of his time and efforts to the business of the council, while the catholic philological councilor had no other occupation; and for some years this protestant councilorship has not even been filled. This High Council of Studies is under the Ministry of the Interior. The church authorities proper—the evangelical High Church-Council and the Archbishop's Ordinary (*Ordinariat*), designate and approve the religious textbooks. Teachers of religion can be appointed only on their approval, and they name a commissary to attend to the religious instructions at every examination. These commissaries can however give no directions; they merely report their observations to their immediate superiors, who then communicate with the High Council of Studies.

The total attendance at all the lycea was, in the school-years 1855-6, 2,058; of whom 836 were evangelical, 1,144 catholic, and 78 Jews. The total attendance at all the gymnasia was 777, of whom 161 were evangelical, 589 catholic, 27 Jews. Total at the *Pädagogia*, 361; of whom 323 were evangelical, 29 catholic, 10 Jews. Total of pupils at all the classical schools, 3,191; of whom 1,819 were evangelical, 1,762 catholic, 110 Jews. About two and a half to the thousand inhabitants are in the classical schools; the rate being among the catholics about two, among the protestants about three, and among the Jews about 10 to the thousand. In the two latter years' classes of the lycea, were 292 pupils. In the autumn of 1855, were dismissed to the university from the lycea, 141 pupils, 50 intending to study catholic theology, 15 evangelical theology, 12 philology, 24 jurisprudence, 13 financial science, 21 medicine, and the other 6 other vocations. The tendency to a university course has become much lessened in Baden, in part from the success of the polytechnic school and the influence of its graduates, in part from the discouraging prospects for aspirants to office in church and state, and in part from the great number of candidates of older standing yet forthcoming, for juridical and financial posts. Only the number of students of catholic theology has increased within a few years; but neither in the catholic nor the protestant connections is there a sufficient number to furnish all that are needed.

Classical schools whose course is full up to the point of entrance into the university, are called lycea; their course is of nine years, being from the 10th to the 19th, and is in six classes, of which the three upper are of two years each. A school omitting the one or two upper years of the lyceum course is called a gymnasium. Of these, there are four catholic, in Donaueschingen, Offenburg, Bruchsal and Tauberbischofsheim; and one evangelical at Lahr. A school omitting these, and also the second highest two-years' class of the lyceum, is called a *Pädagogium*. Of these, there are three, all protestant—in Lörrach, Durlach and Pforzheim. There are Latin schools in most of the more important towns; but these are modified into higher burgher schools, of which an account is given below. There are preparatory schools for the classical schools, only at Carlsruhe and at Lahr; differing in this, that at Carlsruhe, the children are taught from the first beginning of the school age up to their entrance into the lyceum, while at Lahr is merely given a year's preparatory instruction to those who have not the necessary preparation for the gymnasium. The preparatory school at Carlsruhe, is also an elementary school for boys, who are afterwards to be sent to the lyceum. There are here and there combinations of the gymnasium or *pädagogium* with the higher burgher school; the two lowest classes being the same, the pupils for the latter institution thus learning the rudiments of Latin. The distinction begins only in the third and fourth classes, which still however recite some studies in common, as, for instance, religion. But in these classes the pupils of the *pädagogium* or gymnasium begin to receive instruction in the classical languages by themselves, while those of

the burgher school receive also by themselves instruction in modern languages and in real studies. The total number of teachers in all the seven lycea, is 108: of whom only 82 bestow their whole or principal labor upon the lycea; the remaining 26 are teachers of religion, drawing, music and gymnastics, who devote only a part of their labor to the lycea, having other occupations. In the gymnasia there are 36 teachers belonging to these schools exclusively; and in the pædagogia 16. The total of teachers exclusively employed in the classical schools is therefore 134.

The state appropriation to the classical school system is, by the last budget, 50,538 florins. Of this is given to the High Council of Studies, 5,300 florins; to individual institutions, 37,238 florins; general improvements, 8,000 florins. Of the seven lycea, the catholic ones receive: Constance, 2,450 florins; Rastatt, 2,017 florins; Freiburg, 5,300 florins; of the protestant ones, Carlsruhe, 10,848 florins; Wertheim, 3,400 florins; and of the mixed ones, Mannheim, 6,961 florins; Heidelberg, 2,482 florins. The catholic school fund receives a further sum of 750 florins for that at Heidelberg.

Exemptions from the tuition fee are granted by the High Council of Studies, on the proposition of the Teachers' Conferences, and the councils of management. The general rule is, that about one-tenth of the tuition fee shall be remitted. But this rule is of course from the nature of the case not stringently adhered to. Institutions having liberal funds are more liberal in their remission. There are very many stipends in money. The state, as successor of many ancient ecclesiastical foundations, gives annually 18,000 florins to pupils in the classical schools who are preparing to study catholic theology; and there are besides many important endowments for such stipends, belonging to individual institutions, and having their own individual statutes. Where such statutes do not provide otherwise, the High Church-Councils present to these stipends, on the nomination of the Teachers' Conferences. Full reports are made annually on the special stipendiary funds of the lyceums at Carlsruhe and Heidelberg, in the programmes, by their directors.

To enter the lowest class of a classical school are required: "1. Facility in reading German, both in German and in Roman letter. 2. Ability to write dictated sentences correctly, in German and Roman hand. 3. Knowledge of the four ground rules of arithmetic, with indefinite numbers." Those entering must be "not less than ten years old, and not more than eleven; so that their entrance into the university shall not be before their 18th year." This provision of the law is frequently violated in both directions. Promotions take place only in the autumn, at which time those capable of it, are advanced into the next higher class. The pupil must remain in each of the three lower classes a year; in each of the three higher two years; the whole course covering nine years. There is a general plan of studies, which is however here and there subjected to some modifications. The following table exhibits the obligatory studies.

TABLE—SHOWING THE NUMBER OF HOURS PER WEEK DEVOTED TO THE SEVERAL STUDIES IN EACH CLASS IN THE CLASSICAL SCHOOLS.

	Class; I.	II.	III.	IV.	V.	VI.	VII.
Years; 1	1	1	1	2	2	1	1
Religion,.....	2	2	2	2	2	2	2
German,.....	3	3	2	2	2	—	—
Rhet. and Germ. Lit. history, —	—	—	—	—	—	4	3
Latin,.....	10	10	10	8	8	7	7
Greek,.....	—	—	—	4	5	4	4
French,.....	—	—	4	4	3	2	2
Arithmetic,.....	4	4	3	—	—	—	—
Pure Mathematics,.....	—	—	—	3	4	2	—
Applied Math. and Physics, —	—	—	—	—	—	—	4
Nat. Hist. and Nat. Science, —	—	—	—	2	2	—	—
Geography,.....	2	2	3	—	—	—	—
History,.....	—	—	—	3	2	3	3
Philosophy of Propædæutics, —	—	—	—	—	—	3	3
Calligraphy,.....	3	3	2	—	—	—	—
—	—	—	—	—	—	—	—
Total,.....	24	24	26	28	28	27	28
Hebrew, for Theologians,...	—	—	—	—	2	2	2
Sum total,.....					30	29	30

To these add, as obligatory studies for the four lower classes, drawing; for all classes, singing and gymnastics. In these departments, other divisions are to some extent made, than those in the others. It is easier to obtain an excuse from studying them; and they are variously managed at different institutions. There are also studied, as optional studies in the highest class, English; and in the Freiburg lyceum, Italian also. In some places, as at Rastatt, instruction is also given in instrumental music, in connection with the school. Variations are sometimes made from the general plan of studies, subject to the approbation of the superior authorities. Thus, at Mannheim, five hours a week has for some years been devoted to Greek in both sections of Class VI. (Even this number seems to us insufficient.—*Ed. Encyclopedia.*)

Religious instruction is generally given by a professor or teacher in the institution, who has studied theology; and in some schools, to the highest class, by the director. Where this method can not be followed, or not entirely so, or where one confession has no teacher in the institution theologically trained, the clergy of the town have charge of the department; a case most frequent with protestant pupils in catholic institutions. In Carlsruhe, a separate benefice has been endowed by the catholics, for the religious instruction and pastoral care of the catholic pupils in the lyceum and polytechnic school. Up to the fourth class inclusive, the same books are used with those in the common schools. During the two years of the fifth class, an introduction is given to the Holy Scriptures, church history, religious belief, and ethics; and in the highest

class, the Greek Testament is read. These arrangements of the law however mostly vary, by permission of the school and church authorities, so that the material for the two years of the fifth class is often extended over the four years of the fifth and sixth classes, some parts of the Greek text of the New Testament being read. One single manual is promised in this department, but no one has yet been agreed on. In some of the catholic institutions, Dr. Joseph Beck's and Conrad Martin's manuals are used; in the protestant ones, those of Petri and of Hagenbach. The matter to be memorized is in the four lower classes the same as in the common schools; for the upper classes, none is prescribed. There are no general proscriptions for attendance on church catechisings by pupils of classical schools. They sometimes attend the instruction for confirmation, confession or communion together with the other children of the parish, and sometimes by themselves. This last is particularly the case, where there is a special endowment for the catholic religious instruction of an institution; but the pupils are not excused from the regular religious exercises of the school during this instruction. There is in some places an express divine service in the school, for catholic pupils; in other cases, they attend at the parish place of worship, under the oversight of their teachers. This latter arrangement is used in some evangelical churches in a manner that makes profitable religious instruction quite out of the question. For when the pupils are made to sit all together in one particular place in the church, and none of the teachers are visible, except that one whose turn it is to be in charge, the plan can seem to them nothing else than an ill-founded constraint to something which, even the very teachers who constrain them value but little. A partaking of the communion together is usual in catholic institutions. It has long been the practice in most of the catholic institutions to close the school-year with a divine service; and the same has been done for the catholic children in mixed schools. For the last two years it has been the practice at the mixed institution at Heidelberg, and for a year at that at Mannheim, to have such a concluding exercise for the protestant pupils also. It was for a long time the custom at Carlsruhe, to celebrate the last school-evening before Christmas with a festive service. In the classical schools the instruction is begun and closed with prayer, and in some places with singing.

Instruction in Latin begins in the lowest class, that is, on an average, in the tenth year. In institutions having a special preparatory school, the declensions and part of the conjugations are taught in it. The law requires, in the three lower classes, the use of an elementary book, to contain the paradigms and the most indispensable rules of syntax, and also matter to be translated from Latin into German, and *vice versa*. Instead of this, however, is now used in the classical schools Feldbausch's "*School Grammar*," and the exercises attached to it. Döll's "*Elementary Book*," is used only for the three lowest classes of the Carlsruhe lyceum. There are no separate lessons in grammar except such as have connected with them exercises in translation. Both Döll's "*Elementary*

Book" and Feldbausch's "*Grammar*" are arranged in this manner. A detailed ordinance of the High Council of Studies, on their distribution in the different classes, was issued, Feb. 18th, 1856. This provides that the easier, more common and regular paradigms shall be studied in Class I; the same, more fully, in Class II; but the complete subject only in Class III; such points however as can only be understood by reference to the Greek, such as for instance the Greek forms of the third declension, being left out again, until Class IV. A course expressly for syntax begins in II, and ends with IV. The first general course in Feldbausch is intended for II; and those rules designated as Part I, in many chapters, for III; their study in full, that is, in connection with Part II, being left for IV. Certain points, such as the use of the participle, of the relative, and of the indirect construction, must be taken up specially in the course of the reading before they are reached in the regular course of study. The vocabulary is learned in III and IV, from Kärcher's "*Etymological Dictionary*;" and at the same time are to be studied in III, in the grammar, the verbs with irregular perfects and supines. Reading the classics begins in III, with Cornelius Nepos and Phædrus. In IV, Cæsar is read, and in the upper section, Ovid; the latter, however, only in Feldbausch's extracts. In V, Virgil is read, also Cicero's Letters and Orations, the Letters in Süpfle's extracts; also portions of Livy. In VI, Livy is continued, Horace commenced, and the philosophical, and rhetorical works of Cicero studied. Tacitus is the principal reading-book in the higher section. Sallust, however, has not gone entirely out of use in Class V. The quantity of what is read of course varies in different institutions. The complaint is, however, quite frequent, that too little reading is done, and too much time spent in grammar, grammatical observations and exercises in style; and that whole authors or whole works are seldom so thoroughly studied as to enable the student to take pleasure in them; a result which can only be reached by a consideration of the whole subject. No special editions are prescribed to the schools. At one time, the school authorities were strenuously in favor of the well-known Munich editions. Those editions which form part of Haupt and Sauppe's collection have now been introduced in quite a number of places. In composition, the books of Süpfle are generally used. But in most institutions are used, besides these text-books, what are called *stili pro loco*; prepared in the school itself; whose matter is required to be made out—and is mostly made out—by the teachers according to the capacity of the pupils. In such exercises is absorbed very much time in the middle and higher classes. In the Karlsruhe lyceum, for instance, of the seven Latin hours of the upper class, only three are devoted to reading, and three to composition. This proportion is the subject of considerable complaint. [Does not this difficulty also originate in the insufficient number of hours devoted to the study?—*Ed. Encyclopedia.*] In the upper classes, free Latin translations are made; and sometimes speaking Latin is studied; but commonly with small success. The rules of prosody and of hexameter are introduced when Ovid

is commenced. Composition of verses is not prescribed, but is sometimes studied, to a certain extent.

The amount of time to be spent in study at home can not be generally stated. The lessons must be prepared so that all the words are understood, and the meaning comprehended. As to repetition, complaints are made that the writing out of a translation of every thing read is required, and sometimes even the memorizing of the whole text. [The latter exercise is perhaps intended to compensate for the short time devoted to reading.—*Ed. Encyclopedia.*] Composition at home, and preparation there for oral translation from Latin are required.

The study of Greek is commenced in the lowest section of IV, at about the age of thirteen. The paradigms are studied during both sections of IV, and syntax in V. In both classes Feldbausch's School Grammar is used; as is also Feldbausch and Süpfle's Chrestomathy, which contain not only Greek extracts, but also German sentences to be translated into Greek, for practice in the paradigms. The original ordinance required that in the upper section of IV, the *Odyssey* should be begun, together with reading; but this plan has been given up, and the judicious old one of taking Xenophon's *Anabasis* as the first Greek book has been substituted. For Class V, the ordinance originally prescribed the *Odyssey* and a chrestomathy; Jacob's *Attica* being used as the latter. But the *Anabasis* either was not entirely driven from this place, or else it soon returned into it again. For the highest class are prescribed the *Iliad*, Sophocles, the easier dialogues of Plato, and Xenophon's *Memorabilia*. But the father of history, old Herodotus, has not been entirely driven out, and Demosthenes also asserts his rights; both being to be found in the schools of Baden. Composition in Greek is not required, except some oral translations from the Chrestomathy; it is, however, sometimes practiced, as at Mannheim. The study of Greek is obligatory upon all who are preparing themselves for the public service; and very few pupils are excused from it. Hebrew is studied during four years by students of theology and philology; but composition in that language is neither required nor practiced.

French is commenced in Class III, one year before Greek, at four hours per week. Knebel's grammar is used, and sometimes that of Hirzel. Chrestomathies are used to a considerable extent, and include specimens of various styles. In different institutions will be found in use the "*Leçons Françaises*" of Wecker, the Manual of Leber, and the Reader of L. Süpfle, (brother of the author of the Latin text-books). A very frequent exercise in this language is the written translation of what is read, in order to translate it back again, orally. The proposed object in this study is, not merely an understanding of French text and a little knowledge of its literature, as if a disproportionately large share of time were to be employed, but it is professedly the ability to speak French; an object however, attained by only very few pupils. Prof. E. Zandt, teacher of French at the Carlsruhe lyceum, has expressed his views on the purpose and management of the French department in our classical

schools, in a very instructive manner, in the programme for 1856. French is taught at the larger institutions, by German professors, well-trained in general philology, and who also instruct in other departments, usually in the classics. French teachers are no longer employed in that department.

The course in German is quite a difficult one. The legal prescription is, in the two lower classes, formation of words and sentences, exercises in speaking and memorizing appropriate portions of prose and poetry. There are also throughout required exercises in reading, spelling, repetition of what was read, partly oral and partly written. The reading-book used is frequently the favorite one of the teachers of the Friedrich Wilhelm gymnasium at Cologne. In III. and IV, the course requires grammatical instruction proper; together with exercises in style. The former is given from Jahn's Manual; and the latter include narratives, descriptions, letters and business documents. The Cologne reader is used here also, partly as a model in style, partly to furnish materials for declamation, for which both prose and poetry are used. In V, the course includes theory of German style, prose and poetical; exercises in German style, such as descriptions of character, brief orations, and metrical compositions; and special attention is required to exercises in oral delivery. Gockel's "*Manual of written German*" (*Lehrbuch der deutschen Schriftsprache*), is throughout used as a guide. In VI, are taught rhetoric, in the proper meaning of the term, in systematic connection; history of German literature; written exercises, to include style, and especially delivery. Schmeisser's "*Manual of Rhetoric*," and Schäfer's "*Outline of German Literature*" (*Grundriss der deutschen Literatur*) are recommended, and used. In the school are read specimens from ancient and modern writers, partly from Pütz's "*Ancient German Reader*," and partly from different authors themselves. Thus, there were named in the programmes for 1856, extracts from the Nibelungen Lied, Gudrun, Schiller's Wallenstein, and Göthe's Ephigenia.

In history, there are three courses. In III, some historical data are given, during the instruction in geography; and in IV, in the first year, a general account of the principal facts of history, after Bredow's Manual for burgher schools. In the second year of IV, are taught ancient history and geography together, in the two years of V, German history, with special reference to that of Baden; and followed by that of the other European nations. In the two years of VI, are taught general history of the world, with special reference to the history of civilization and literature. Special lessons are given in German literary history, so that this course goes at some detail into the history of the Greek and Roman literature, and in modern history, into the literature of foreign nations. The manuals of Dr. Joseph Beck are used. No particular amount of chronological data is prescribed.

Instruction in geography is given only in the three lowest classes; in IV, it is studied only in connection with history. There are two courses in it. The first proceeds through I. and II; and discusses all the por-

tions of the earth in a general manner, Europe more fully, only Germany in detail, especially Baden. The second course, in III, goes in detail into a description of the earth's surface, treats of mathematical geography, and concludes with a view of all the parts of the earth. Map-drawing, particularly in outline on the blackboard, is required. The manual used is in general Selten's book, with which the scholars use Stieler's small atlas; and wall maps are always at hand. In practice, some of the schools teach geography in the time allotted to history, in IV. There is a general feeling that the course in geography is too limited, and ends too soon. The point of commencement is not home, but always the whole surface of the earth. In natural science there are two courses. The first is in the two years of IV, in the first year a general view of natural history, in the second a popular theory of natural science, and an explanation of the most important natural phenomena. The second course, a scientific one, includes, during the two years of V, natural history; then, after an interval of a year, follows in the latter year of VI, physics (after Eisenlohr), including the application of mathematics to it. The instruction in natural history in V, is so arranged that the first year includes, in winter, introduction, and mineralogy and general botany; in summer, special botany; in the second year, general and special zoology. There are variations from this order; especially in bringing together into one series, the courses of the three years, in natural history; and in pursuing botany during several summers. The manuals used are, Schilling in natural history, and Eisenlohr in physics.

In arithmetic, the rudiments are required at entering the classical schools. A beginning is however everywhere made with a review of the four ground rules. In the two lower classes, these are studied until well understood in whole numbers, fractions, and denominate numbers, besides various exercises in mental arithmetic. In these two classes are also studied decimals. The method is that used in the common schools; and the manuals are, the series of Gruber, commonly used in the catholic common schools, and partly the arithmetics of Stern, which are extensively introduced in the protestant ones. In III, the prescribed rules are proportion, chain-rule, and partnership. In this class are also solved throughout such problems as were before solved by proportion; also such cases as will arise in the course of business, by whatever name they may be called. The most common rule for this purpose is, a reduction to units; Rees' chain-rule, and proportion, being sometimes used. The mathematical theory of geometrical relations and proportions is only occasionally studied at this point; in by far the majority of the schools it is transferred from the course of popular arithmetic to that in mathematics proper. In the two years of IV, all the arithmetical studies are reviewed, by complex problems, through decimals; extraction of square and cube root are taught; and arithmetic with symbols commenced. A beginning is also made in geometry. At this point however, a difference exists. In some institutions, the geometrical instruction is similar to that in the common schools; geometrical drawing and arithmetic being carried up to

the drawing of surfaces of bodies, and the computation of solid contents, without any scientific view of the subject; the connected scientific course in geometry only beginning in V. In other institutions, however, this scientific course in geometry begins in IV, and proceeds in that class to the pythagorean problem, or to that of the similarity of triangles. In V, are taught, in the first year, arithmetic and algebra, including equations of the second degree; in the second year, plane and solid geometry, excluding curved lines not circular, and curved surfaces except those of the cylinder and cone. This regulation is so far varied from, that the arithmetical and geometrical parts of pure mathematics are carried along together through both sections of V. Arithmetic is studied, to geometrical progression, logarithms, and their application to compound interest; algebra, to impure quadratic equations; geometry to the problems of circular surfaces; stereometry to the surfaces of the cylinder, sphere and cone. In the first section of VI, are studied the circular functions, and their application to geometry and plane trigonometry. Conic sections, and equations higher than quadratic, are studied only in a few institutions.

The philosophical course includes anthropology, logic, encyclopædic philosophy, and the methodology of the university studies. Psychology and logic are everywhere studied. The text-books used are those of Joseph Beck, and Gockel. Instruction in singing is usually obligatory in the lower classes, and is given at a fixed hour. In the middle and higher classes however, where the study of it is either entirely optional or a dispensation is easily obtained from it, a classification is made by voices which does not coincide with the other classification of the classes. In sacred singing, the difference of confessions must be observed. Exhibitions by all the pupils together are had at public examinations and other festive occasions. Drawing is taught in the lower classes; writing only in III. Gymnastics are taught throughout; though exercises may be had from the practice.

The two sections of the three upper classes are to be instructed, where the means of the institution allow, entirely separately; where their means do not allow it, they may be taught together everywhere, or in some studies. In most institutions they are kept quite separate. The teachers may give private lessons at the discretion of the director, but not on the school premises. Some pupils are permitted to help themselves forward by receiving private lessons, often given by teachers in the institution. There are at all these institutions libraries, for which an appropriation is set apart in the budget of each. These are primarily for the benefit of the teachers, although the pupils may use them. In some schools there are special libraries for the pupils; sometimes consisting of an original number of presented works, to be increased from the amount appropriated as above for the library, and sometimes by especial contributions from the pupils of the higher classes. Among the books commonly found in these pupils' libraries are especially numerous, such as

relate to German literature and its history. Gifts to the libraries and the other collections are not unfrequent.

The pupils take rank by occupying places in the four lower classes, in Latin style, usually every week; in other studies they move up or down at every recitation; and the places thus gained are recorded weekly, a summary of their entries made once a month, and a general list thence compiled once a year. In the two higher classes this method is not used, but each teacher in his own department places each pupil every month, according to his own judgment. The places occupied in the different studies are then multiplied by proper numbers, according to their importance in the whole scheme of study, and the entries of the general monthly record of standing are made up from the results of this multiplication.

The disciplinary authority of the school extends not only to the deportment of the pupils in the institution, but to their attendance at church, industry at home, and general conduct, especially at public places; and to playing, drinking, smoking, and dress. Penalties are, admonition without the school, within the school, or before the assembled conference of teachers; separation during recitation (in the four lower classes only); detention at work after school, in the four lower classes, and with the approbation of the director; imprisonment (*Carcer*) for from one hour to eight days, with more or less restriction of diet, but only with the approbation of the director, and if the term exceeds three days, with that of the conference of teachers; dismissal from the school, only inflicted by the conference of teachers, and after confirmation by the High Council of Studies; and the greater dismission, which excludes from all the classical schools of the country. Corporal punishment is entirely forbidden. Dismission is seldom inflicted; the greater dismission exceedingly seldom; almost never; imprisonment is frequent enough.

The system of teaching by classes prevails so far that each section of a class is presided over by a principal teacher, who has charge of classical instruction, and discipline. But the nature of some studies occasions the employment of special teachers who have charge of such studies through all the classes. School diaries are not used. The pupils are in the four lower classes addressed as *Du*; afterward as *Sie*.* Parents receive, in the lower classes monthly, in the upper ones quarterly, reports on the diligence and conduct of their children, and on their progress in general and in each particular study. Going to taverns in or near the place of the institution is entirely forbidden to the five lower classes. The teachers' conference may select a decent one in the town, at which the sixth class may meet on one fixed evening weekly. Smoking in the streets is forbidden. The laws against going to the tavern require to be upheld by punishments, in order to secure complete obedience to them. As to admission of foreign pupils, there is no rule; respecting expense

* A distinction corresponding to that between calling them "Boys," and "Young gentlemen."—(Translator.)

of board, a professor at one of the larger institutions would scarcely receive a pupil at less than 400 florins a year for board and lodging.

The school year begins on October 1st. The vacations are, one week at Christmas, two weeks at Easter, and six weeks in the fall; from the middle of August to the first of October. Some institutions however, have three weeks vacation in summer, and three more in autumn. Some complaints are made that in this latter case the vacation does not include the wine harvest; but a vacation of six consecutive weeks is generally found very injurious to the younger pupils, though there is no objection to it as to the older ones. Wednesday and Saturday afternoons are always half-holidays. There are two examinations a year; one private one, by the director, at the end of the summer term, and a public one, at the end of the school year. At this last are various public exercises by the members of the school, including music, declamations and addresses. The director invites to this examination, by sending a programme, which, besides matter relative to the history and statistics of the institution, contain a full statement of the course of study, teachers and pupils, and to which, in the larger institutions at least, is subjoined some scientific paper by one of the teachers. These programmes are not only exchanged between the institutions of the country, but with various foreign ones. There is also a special graduating examination for those completing their course of study. This is not public; and is held before a commissary of the High Council of Studies, if one can attend, and the teachers of the upper class. It is both oral and written. The oral examination deals especially with such departments as the public examination indicated not to have been taught with sufficient thoroughness; the written, in which no assistance of any kind is allowed, occupies two consecutive days, and includes a composition at pleasure in German, an exercise in Latin style, and a translation from a difficult Latin author and an easy Greek one; to be portions not read in the school.* The tasks at this examination are the same for all the lycea, and are selected by the High Council of Studies for each year. Either the commissary of that body brings them with him, or they are sent to the director, not to be opened until the day of the examination. After this examination the graduating license is given or withheld; and sometimes given on condition that before presenting himself for the state examination, the graduate shall diligently attend certain of the university lectures. No special privileges are connected with graduating from a lyceum.

Some of the teachers of the Baden classical schools have a public official position; such as the directors, and principal teachers who have received a learned education; these being appointed by a commission from the central government. Others have not such a position. Some of the

* In 1856, Tac., Ann., 2, 88; and Iliad, 23, 57—91; or if these were read in the school, Hist., 3, 63; and Iliad, 4, 68—103. In 1857, Tac., Hist., 2, 47; and Iliad, 14, 55—102; or, Annals, 6, 22; and Iliad, 22, 395—430. Theme, 1856: Characteristics of the pupil's favorite author; Horace, for instance. 1857, Patriotism; especially the various modes in which it may be acted out in real life.

teachers are principal teachers, who have been through a course of philological, theological, mathematical or natural-scientific study, at a university or polytechnic school; some are special teachers, for writing, drawing and music, who have not pursued such a course; and some are from among the common school candidates, who act as assistants in the lower classes of the classical schools. The title of professor is only conferred after distinguished services; and the older and more eminent professors receive the title and rank of court councilor, and privy court councilor. It was formerly the rule, in the protestant parts of the country, that the philological teachers should be clergymen also; but latterly this is not so frequently the case. The philological teachers as a class, have still less of a clerical character in the catholic parts of the country. The character of the directors may perhaps serve as an index to the general rule in this respect. The seven lycea have eight directors; that at Heidelberg having two in alternation. Of these, none of the four catholic ones are clergymen, while of the four protestant ones, three are ordained clergymen.

There are philological seminaries at both the universities; their object being only to promote the philological labors of the members; there are no institutions for practical instruction in that department. There are some small endowments for stipends for members of these (at Heidelberg, 25 florins for a course). A new ordinance is now expected on the examination of candidates for teachers' places. Hitherto there has been but one, conducted by the High Council of Studies, together with some professors of a university and of lycea, and which admitted to the number of actual teachers either in all the chief departments of instruction, or for single ones. When those who passed received an appointment, it was published in the Register. These actual teachers must, however, teach in some institution during one probationary year, before they can receive an appointment. Teachers who are public officials are appointed by the Grand-duke's commission as prince, on the nomination of the High Council of Studies; others by the ministry of the interior. Rectors have no official influence on the choice of teachers in their institutions. The weekly duty of the teachers is from twenty-six hours downwards, the number decreasing toward the higher classes. There is no prescribed official costume. The official privileges of such teachers as are public officials are precisely those of other public officials, except that there is one additional cause of dismission for them, viz: abuse or corruption of pupils by immoral treatment. Their right of pension and that of their widows and orphans is similar to that of other public officers. These rights, in the case of those teachers not public officials, are on the same footing as those of the common school teachers. The salaries of teachers in the classical schools is from 600 florins to 2,200 florins. The salary is not a fixed one for each place, but the teacher commences with a small one, which increases with time, without reference to removing to a higher class; so that a teacher may remain in a lower class and receive an increase of salary, while another may remove to a higher one without any

such increase. The salary of a director is about equal to that of a high bailiff, &c. There are no teachers' associations, periodicals, &c.

Opinions upon the classical schools vary much, according to different views as to the value of classical studies. Some would have a great increase in the extent of the classical instruction, and others a great decrease. It is a fact which must be and is very generally allowed on all sides, that the skill in the classic languages and the knowledge of classical antiquity now acquired in these institutions, is less than they were forty years ago; as well as that very few carry any love of these studies into after life. Some lament this state of things, while others rejoice over it as a transition to a better training of the youth of the educated classes. There is a constantly increasing tendency of such young men as are fitted for it, to the polytechnic school and its departments of study.

III. REAL SCHOOLS.

The Latin schools which formerly existed in the principal towns of Baden-Durlach, and were under deacons with ecclesiastical functions, are all changed into schools termed "Higher Burgher Schools;" and similar schools have been established in a number of other towns. This was done by the ordinance of May 15, 1834. Their purpose is, to educate those young persons who propose to follow civic occupations, requiring a higher grade of education than the common school can furnish. They prepare for civic occupations, for mechanical business, for the polytechnic school; and at the same time, those intending to pursue a learned profession, may here prepare themselves for the middle classes of the classical schools. They are supported in part by the endowments of the old Latin schools from which they are remodeled, in part by appropriations from the parishes which may have established them, in part by a tuition fee, and in part by appropriations from the state. The amount of this latter item was, in the last budget, 17,000 florins. The organization of their schools varies much. In Carlsruhe there is none; its place being supplied to some extent by the preparatory department of the polytechnic school. In the other large cities, these schools have entirely ceased to give classical instruction, so that they are purely real schools. This is the case in Constance, Freiburg, Heidelberg and Mannheim. The formal part of education is afforded in these schools, by a more thorough study of German, by an introduction to literature and literary history, and by thorough historical instruction. The leading studies are French and English, mathematics and natural science. These are however in some smaller towns where there are no classical schools, higher burgher schools in which it has been found necessary, on account of children of persons in office, pastors, &c., who desire to study for a learned profession, to instruct in Latin and even in Greek. In these, the other first-mentioned studies can not of course be pursued so energetically as in the others; they are intermediate between classical and real schools. There are still others, connected with a gymnasium or pædagogium in such a way that the lowest or two lowest classes are quite identical, and,

in many departments, the higher classes also; the classical pupils receiving special instruction in the ancient languages, and the burgher pupils in real studies and modern languages. Each school has a presiding teacher called a director; an inspector, usually an official, sometimes a clergyman, has the immediate oversight of it, without himself teaching in the school. The superior authority over all this class of schools is the High Council of Studies. The whole number of pupils at all the twenty-four of these schools was, in the school year 1854-5, 1,748; being less than the number in the lycea. The largest of them are at Mannheim and Heidelberg. It is a general complaint of the teachers of these schools, that but few parents are able to keep their children in them longer than to the end of their fourteenth year. These schools have from three to six classes. The directors are teachers who have pursued a university course in theology, philology, and in some cases in mathematics; the other teachers are usually common school teachers, who have attended some of the polytechnic courses, or have acquired a knowledge of French by residing in France. The tuition fee is not to exceed 16 florins; and may be remitted. Each school has its own treasury, and its own council of management.

To enter the lowest class of the higher burgher school, the pupil must be ten years of age, and must be fitted to enter the lowest class of the classical school. The varying character of these schools renders it impossible to give a universal course of study. For the sake of affording some general idea, there is here given the plan of studies of the school at Mannheim, the largest, and most distinctively a real school; and for comparison with it, a study plan of one of the smallest, which has retained more of the formal element of education, viz: that at Eppingen.

PLAN OF STUDY, HIGHER BURGHER SCHOOL OF MANNHEIM, 1855-6.

	Class: I.	II.	III.	IV.	V.	VI.
Religion,.....	2	2	2	2	2	2 hours weekly.
German,.....	4	4	4	3	3	"
French,.....	6	6	6	5	4	"
English,.....	-	-	-	4	4	5
Geography,.....	2	2	2	2	-	-
History,.....	-	-	2	2	2	2
Arithmetic and Algebra,....	5	4	4	3	3	2
Geometry,.....	2	2	3	3	2	2
Applied Mathematics,.....	-	-	-	-	6	6
Zoology and Botany,.....	-	-	2	2	-	-
Chemistry and Mineralogy,...	-	-	-	-	4	-
Physics,.....	-	-	-	-	-	6
Drawing,.....	-	3	3	4	4	4
Calligraphy,.....	4	4	3	1	1	1
Arts and Trade,.....	-	-	-	-	2	2
Singing,.....	1	1	2	2	2	2
Total,.....	26	28	33	33	39	41

PLAN OF STUDY, HIGHER BURGHER SCHOOL, EPPINGEN, 1855-6.

	Class; I. Year; I	II	III
Religion,.....	2	2	2 hours.
German,.....	3	4	4 "
Latin,.....	3	4	4 "
French,.....	2	4	5 "
Arithmetic,.....	3	4	3 "
Algebra,.....	-	-	1 "
Geometry,.....	-	-	2 "
Natural History,.....	2	2	2 "
Natural Science,.....	-	-	2 "
Geography,.....	2	2	2 "
History,.....	-	-	2 "
Calligraphy,.....	2	2	2 "
Drawing,.....	2	2	2 "
Total,.....	21	26	43 "

It will at once be seen how great is the difference between these two institutions, which bear the same name. Where the director is a clergyman, he gives the religious instruction; if not, it is given by the pastor of the parish. It corresponds in extent, in the smaller institutions, with that given in the common schools. There are no precise rules for its further extent in larger institutions. Where Latin is taught, it goes as far as the reading of Cornelius Nepos, or Cæsar. In French and English the object is to learn to speak and write them; a knowledge of their literature is aimed at in but few institutions. In German, such a knowledge of the language is given as is required in business; and only in the larger schools is an effort made to afford a thorough knowledge of the history of German literature, and an acquaintance with, and an understanding and enjoyment of its masterpieces. In mathematical and natural science, the object is (in schools of six classes), to prepare the pupil to enter the polytechnic school, its second mathematical class, or one of its department schools. The situation and *status* of the teachers corresponds generally with those in the classical schools.

The schools (*Gewerbeschulen*), are an entirely different class of real schools. Their object is, "to afford to young persons who propose to follow a trade or mechanic art which requires no high grade of technical or scientific training, and who have already acquired a practical knowledge of its rudiments, such knowledge and skill as will make them capable of an intelligent pursuit of it." In these schools is to be taught, drawing by hand of geometrical figures and bodies, ornamental drawing, arithmetic, rudiments of algebra, geometry, except geometrical drawing, industrial economy, an introduction to a simple method of book-keeping, exercises in written composition and in oral expression. If the means are forthcoming and there is a demand, there may also be taught some-

thing of natural science, a simple explanation of the most important natural phenomena, and such parts of natural history and technical chemistry as are useful for some handicrafts and for agriculture and mechanics as applied to trades; and the description, construction and computation of some machines. The trade school receives all young persons who are fourteen years of age, who have begun to learn a trade under a master, or are intending immediately to do so. The preparatory knowledge required is only that necessary to enter the common school. Masters must send their apprentices, and may send their journeymen. The hours of instruction are during Sundays, not in service-time, and on some evenings of the week. There are annual examinations, in the spring; where apprentices must, and journeymen may appear. The teachers are sometimes men of eminence among the mechanic class, sometimes teachers in other schools, especially the higher burgher schools, sometimes teachers expressly educated for the purpose, at the polytechnic school, and sometimes persons appointed by the government. A tuition fee is paid, not to exceed 20 kreuzers a month. Half, a quarter, or all of this, may be remitted. The parish treasuries collect this amount, and bear all expenses of the school. The state pays, toward their support, an amount which was, in 1857, 9,000 florins. Besides this, the state pays also 1,000 florins a year to the Trade School Commission, 1,000 florins a year toward supporting teachers for such schools while studying at the polytechnic school, and also whatever part of the annual sum of 10,000 florins, paid in aid of the watchmaking business in the Schwarzwald, is appropriated to the school of watchmaking there. Each trade-school is under the authority of a committee, consisting of the senior pastor of the town, or if of both confessions, the two senior pastors, the mayor, and three tradesmen. Where there are any technical officials, one of them is also on the committee. The superior supervising authorities are the district officers, and over them the circle governments. The instruction is, however, in charge of a Trade-School Council, consisting of a member of the ministry of the interior as president, and the director and two professors of the polytechnic school. The ministry of interior appoints the teachers. Such trade-schools exist in thirty-two towns.

IV. HIGHER INSTITUTIONS FOR GIRLS.

There have long been connected with some of those Catholic schools for girls which are in charge of the female orders, classes which went beyond the requirements of the common school course of study. Some of them have also boarding departments. These orders train up their own female teachers. Many of the towns have also established higher schools for girls, as town institutions; such as Karlsruhe, Pforzheim and Lahr. There are also private institutions for girls in Mannheim, Heidelberg, Karlsruhe, and Constance. All these are under the supervising authorities of the common schools. They teach, besides the usual studies of the common schools, specially French; and many of them English also.

They teach also, history, geography, German composition, literary history, and sometimes mythology. Music and dancing are usually taught at special hours, and only to such as pay a certain extra price for them. In the cities, girls of the educated classes usually attend a higher school for girls, or a private institution for them, for one or two years subsequent to their confirmation. The city institutions of this class are usually in charge of clergymen. Female teachers are employed in all of them to instruct in women's work, and partly in teaching language. The private institutions are almost all enterprises set on foot by women.

V. ORPHAN INSTITUTIONS, RESCUE INSTITUTIONS, ETC.

There has long existed in Baden-Durlach, the office of Judge of the Orphans. In every village there was one person, and in large towns more, holding this office. Their duty was, to know all the orphans of the place, and to see to the appointment of suitable guardians to them. These officers have now been appointed throughout the grand-duchy. In connection with the district authorities, they arrange for the care of all orphans up to their completion of their school course, by agreement with honest and intelligent families. Public contracts by auction for their support are forbidden. In Baden-Durlach, except the lordships of Lahr and of Henan-Lichtenberg, there is a public alms' fund, and an orphans' treasury connected with it. These are established by certain parishes, who have the exclusive benefit of them. The fund is under charge of the Protestant High Church-Council, and amounted, in June 1, 1855, to 111,208 florins 15 kreuzers. Orphans from these parishes receive an assistance in money, at present amounting to about 10 florins a year. In 1843, four hundred and twenty-five orphans received aid from this fund. In the parishes connected with it, there is an annual collection from house to house for its benefit. The Stulz Orphan House in the convent of Lichtenthal, near Baden, was founded by Grand Duke Leopold, from the legacy of 200,000 francs left at his disposal by George Stulz, of Ortemberg, a native of Kippenheim, who died November 17, 1832, at Hières, in the south of France. It receives orphans without father or mother, of all confessions. The catholic ones attend the school of the place, the protestants have a teacher of their own. About forty children are supported there. The larger cities have established orphan-houses with their own means. These are organized in various ways, but it is the practice in all of them for the children to receive their instruction at the school of the place, and their other bringing up at the orphan-house.

There is a society for the reform of children destitute of moral guardianship, which is supported by government, and has a half-official character. It was established in 1833, principally by means of Herr von Wessenberg; and commenced operations in 1836. Its purpose is, to educate and bring up children whose morals are already neglected, or are in danger of becoming so. At first, it placed such children with reputable families; but on the 3d December, 1837, it opened a Rescue House

at Durlach, with ten children. This was calculated for thirty children, but it was found necessary in 1847 to enlarge it to a capacity for fifty. On the 28th October, 1843, chiefly by the assistance of the princely family of Fürstemberg, a second Rescue House was opened at Mariahof, which also began with thirty children, and has been enlarged to receive fifty. These receive only boys; but a Rescue House for girls has been established in Constance, endowed by Baron von Wessenberg. Several smaller institutions have joined themselves to the society. The children of these institutions do not attend the local school, but receive instruction by themselves, under the oversight of the school authorities. A collection is annually taken up for them on the first Sunday after Advent, or at Christmas. The society is of both confessions; but the Protestant boys are all sent to Durlach, and the Catholic ones to Mariahof. At the present moment, the archbishop's court is seeking a complete separation of the society by confessions, and the subordination of the Catholic part to the authority of the archbishop. In 1847, the society had, after founding and enlarging the houses at Durlach and Mariahof, and erecting that at Constance, a fund of 5,667 florins. There were in that year under its charge 219 children; 88 at Durlach, 42 at Mariahof, 94 in families, and 30 at service and studying. There were in that year dismissed as fully reformed, 7; as doubtfully reformed, 4; as incorrigible, 9.

Besides this semi-official society, there are, established by private individuals or societies, Rescue Houses at Weinheim, Räsersthal near Mannheim, the Harthaus near Carlsruhe, and at Vögisheim; all being of one confession or the other, and mostly supported by religious societies. At Walldorf, is established the Astor House, founded by a legacy of John Jacob Astor, who wandered from Walldorf a poor boy, and acquired a colossal fortune in America. It includes, besides other departments, a school for poor and neglected children of the parish of Walldorf; other children may also be received, by paying. The institution is under the oversight of a board appointed by Mr. Astor's executors, who fill vacancies in their own body, and sit at Heidelberg.

There is at Freiburg, an institution for the blind. It was established by Prof. Müller as a private institution, in 1826, by the assistance of prince von Fürstemberg; was declared a state institution, and removed to Bruchsal, in 1828; and in 1827 removed to Freiburg. It has a capital of 18,000 florins, derived from gifts and legacies, and receives an annual appropriation from the state, of 8,000 florins. Its course of instruction includes, besides school studies, consisting of reading and writing or printing by the touch, instruction in occupations suitable for the blind. It had in 1854, 27 pupils; and it was then in contemplation to raise the number to 36. There is a private Society for the Employment and Protection of the graduated Blind; established since 1848, at Freiburg. It has a house, and at present 14 beneficiaries.

Duke Karl Friedrich founded an institution for the deaf and dumb at Carlsruhe, in 1789. This was transferred to Pforzheim, on the 2d August, 1826, under duke Ludwig; and was much enlarged. The instruction

includes all the common school studies, except singing, and is given in spoken language and by writing; the use of signs only being admitted when absolutely necessary. The trades taught, are embroidery, washing, ironing, sewing, making clothes, knitting, spinning, working on wood, paper and straw, gardening, and other domestic employments. The pupils receive, besides instruction, lodging, board, care and clothing. They are received between the ages of seven and twelve, and remain five or six years. The institution is in charge of a director, who is also the first principal teacher; and there are also two other principal teachers and some assistants, who are also employed elsewhere. The appropriation from the state is 9,350 florins; the whole income from 12,000 to 13,000 florins. In 1855, the institution had 79 pupils; it can accommodate 90. Pupils without means receive at leaving the institution a sum of money to purchase materials and tools.

There is a Child's Hospital at Freiburg. It usually contains about 12 children, but can accommodate 15. It takes care of sick children until they recover or are materially better, or die. It was founded by the wife of Prof. Plitt; and is supported by the contributions of its friends. The founder only decides on applications for admission.

XVIII. M. GUIZOT'S MINISTRY OF PUBLIC INSTRUCTION.

IN FRANCE, FROM 1832-1837.*

I. PRIMARY INSTRUCTION.

I FILLED the ministry of Public Instruction for four years, from October 11, 1832, to January, 1837. During that time I entered upon every question which belonged or applied to that department. I am anxious to retrace what I accomplished, what I commenced without carrying through, and what I intended to achieve. Throughout the same period I was also engaged in all the struggles of interior and external policy, in all the vicissitudes of the composition and destiny of the cabinet. I shall exempt from this battle of the events and passions of the day, such matters as relate only to Public Instruction.

There is a fact which has been too little regarded. Amongst us, and in our days, the ministry of Public Instruction is the most popular of all governmental departments, and that which the people look upon with the highest favor and expectation. A good symptom in our age, when men, it is said, are exclusively occupied with their actual and material interests. The ministry of Public Instruction has nothing whatever to do with the material and actual interests of the generation which possesses the world for the moment. It is consecrated to succeeding races—to their intelligence and destiny. Our age and our country, therefore, are not so indifferent as they are accused of being to moral order and to the future.

Family duties and feelings exercise at present an extensive sway. I say duties and feelings, not the family spirit or sympathy of class, such as it existed under our old society. Legal and political family ties are weakened; natural and moral bonds have increased in strength. Never did parents live so affectionately and intimately with their children; never were they so completely engaged with their instruction and prospects. Although profusely mingled with error and evil, the violent shock which, in this sense, Rousseau and his school have given to minds and manners, has not been profitless, and salutary traces still remain. Egotism, corruption, and worldly frivolity assuredly are not rare. The very foundations of the family tie have lately been and still are exposed to senseless and perverse attacks. Nevertheless, looking upon our social system in general, and on those millions of existences which pass noiselessly on, but really constitute France, the domestic virtues and affections predominate, and are more than ever exemplified in the constant and active solicitude of parents for the education of their children.

* From Guizot's "Memoirs to Illustrate the History of my Life," report and

An idea connects itself with these sentiments, and gives them a new empire. The idea that personal merit is now the first controlling influence, as it is the primary condition of success in life, and that this quality is indispensable. We have witnessed, during three-fourths of a century, the incompetence and fragility of all the advantages derived from accident, birth, riches, or traditional rank. We have seen, at the same time, in every stage and fluctuation of society, a crowd of men raise themselves and take high places, by the sole force of intelligence, character, knowledge and exertion. In conjunction with the sad and injurious impressions which this violent and perpetual confusion of places and persons excites in the mind, a great moral lesson presents itself—the conviction that man can vindicate his own value, and that his destiny essentially depends on individual worth. In spite of all that our manners retain of weakness and inconsistency, there is at present in French society a general and profound sentiment, acting powerfully in the bosoms of families, which gives to parents more judgment and foresight in the education of their children, and which they could not have acquired without these rude warnings of contemporary experience: judgment and foresight even more necessary in the classes already well treated by fortune, than in others less favored. A great geologist, M. Elie de Beaumont, has brought us into close acquaintance with the revolutions of our globe. The inequalities of its surface are formed by interior fermentation; volcanoes have produced mountains. Let not the classes which occupy the social eminences delude themselves. A corresponding fact is passing under their feet. Human society continues to ferment even in its lowest depths, and struggles to eject from its bosom new elevations. This extensive and hidden ebullition, this ardent and universal movement of ascent, forms the essential characteristic of all democratic associations; it is, in truth, democracy itself. In presence of this fact, what would become of the classes already endowed with social advantages—the long-descended, the rich, the great, and the favored of every description, if to the gifts of fortune they added not the claims of personal merit? If they did not by study, labor, acquirement, and energetic habits of mind and life, render themselves equal in every career to the immense competition they have to encounter, and which can only be overcome by grappling with it vigorously?

It is to this condition of our society, to an instinctive appreciation of its necessities, to the sentiment of ambitious or provident solicitude which reigns in families, that the ministry of Public Instruction owes its popularity. All parents interest themselves warmly in the abundance and healthfulness of the source from which their children are to be nourished.

By the side of this powerful domestic interest, a great public consideration also places itself. Necessary to families, the ministry of Public Instruction is not less important to the state.

The grand problem of modern society is the government of minds. It has frequently been said in the last century, and it is often repeated now,

that minds ought not to be fettered, that they should be left to their free operation, and that society has neither the right nor the necessity of interference. Experience has protested against this haughty and precipitate solution. It has shown what it was to suffer minds to be unchecked, and has roughly demonstrated that even in intellectual order, guides and bridles are necessary. The very men who have maintained, here and elsewhere, the principle of total unrestraint, have been the first to renounce it as soon as they experienced the burden of power. Never were minds more violently hunted down, never less open to self-instruction and spontaneous development; never have more systems been invented, or greater efforts been made to subjugate them, than under the rule of those parties who had demanded the abolition of all intermeddling in the domains of intellect.

But if, for the advantage of progress, as well as for good order in society, a certain government of minds is always necessary, the conditions and means of this government are neither at all times nor in all places the same. Within our own experience they have greatly changed.

Formerly, the church alone possessed the control of minds. She united, at once, moral influence and intellectual supremacy. She was charged equally to feed intelligence and to govern souls. Science was her domain as exclusively as faith. All this is over. Intelligence and science have become expanded and secularized. Laical students have entered in crowds into the field of the moral sciences, and have cultivated it with brilliancy. They have almost entirely appropriated mathematics and natural philosophy. The church has not wanted erudite ecclesiastics; but the learned world, professors and public, has become more secular than clerical. Science has ceased to dwell habitually under the same roof with faith; she has traversed the world. She has moreover become a practical force, fertile in daily application for the uses of all classes of society.

In becoming more laical, intelligence and science have aspired to greater liberty. This was the natural consequence of their power, popularity, and pride, which increased together. And the public has sustained them in their pretension, for it speedily discovered that its own liberty was intimately connected with theirs; and soon after, that liberty conferred on the masters of thought and science a just reward for the new powers they had placed at the disposal of society, and for the common benefits they had conferred on all.

Whether we receive them with congratulations or regret; whether we agree or differ upon their consequences; whether we blind or alarm ourselves as to their danger—here are certain and irrevocable facts. Intelligence and science will never again become essentially ecclesiastical; neither will they be satisfied without an extensive field of free exercise.

But precisely because they are now more laical, more powerful, and more free than formerly, intelligence and science could never remain beyond the government of society. When we say government, we do not necessarily imply positive and direct authority. Washington said,

"influence is not government;" and in the sense of political order he was right. Influence there would not suffice. Direct and promptly effective action is necessary. With intellectual order the case is different. Where minds are concerned, it is preëminently by influence that government should be exercised. Two facts, as I think, are here necessary: one, that the powers devoted to intellectual labor, the leaders of science and literature, should be drawn towards the government, frankly assembled around it, and induced to live in natural and habitual relations with constitutional authority; the other, that the government should not remain careless or ignorant of the moral development of succeeding generations, and that as they appear upon the scene, it should study to establish intimate ties between them and the state, in the bosom of which God has placed their existence. For the progress of intellectual order, it is the legitimate and necessary duty of civil government to promote great establishments for science, and great schools for public instruction, on regulated conditions, and supported by the highest public authority.

By what means can we at present, in France, secure this action of the government, and satisfy a vital requirement of society? Formerly, France possessed, in great number, special establishments, supported by themselves; universities, and learned or scholastic corporations, which, without depending on the state, were, however, connected with it by ties more or less intimate or apparent; sometimes demanding its support, and at others, not able entirely to withdraw from its intervention; and thus conferring on the civil power an actual although an indirect and limited influence on the intellectual life and education of society. The University of Paris, the Sorbonne, the Benedictines, the Oratorians, the Lazarists, the Jesuits, and many other corporate bodies and schools scattered through the provinces, were assuredly not branches of public administration, and were often the causes of serious embarrassment. Before they disappeared in the revolutionary tempest, several of these establishments had fallen into abuse or insignificance, which destroyed their moral credit and obliterated their services. But for ages they had seconded the intellectual development of French society, and had coöperated profitably in its government. Being nearly all old proprietaries, attached to their traditions, and founded with a religious object, they had instincts of order and authority as well as of independence. In the aggregate, they constituted a mode of action by the state on the intellectual life and education of the people: a confused and incoherent mode, which had its difficulties and vices, but was not deficient either in dignity or efficacy.

From 1789 to 1800, three celebrated bodies, true sovereigns of their time, the Constituent Assembly, the Legislative Assembly, and the National Convention, undertook to bestow on France a grand system of public instruction. Three persons of eminent and very opposite abilities, M. de Talleyrand, M. de Condorcet, and M. Daunou, were successively commissioned to draw up a report and present a plan on this important question, with which the enlightened spirits engaged in revolutionary struggles delighted to occupy themselves, as if to find in this field of

speculation and philosophic hope, some relief from the violence of the times. The reports of these three brilliant men, representing the society, the politics, and the science of their age, are remarkable works, both in their common character and in their different and distinctive features. In all three, man alone reigns supreme in this world, and the Revolution of 1789 is the date of his accession to the throne. He ascends confident in his omnipotence, regulates human society as a master, for the future as well as for the present, and feels assured of fashioning it according to his own will. In the report to which M. de Talleyrand has affixed his name, the pride of mind predominates, combined with benevolent ardor, but without passion or hesitating doubt. Public instruction is there called "a power which embraces every thing, from the games of infancy to the most imposing fêtes of the nation; every thing calls for a creation in this branch; its essential characteristic ought to be *universality*, whether in persons or things; the state must govern theological studies as well as all others; evangelical morality is the noblest present which the Divinity has bestowed on man; the French nation does honor to itself in rendering this homage." *The Institute*, the successor of all the academies, is proposed as the supreme school, the pinnacle of public education; it is to be at once a learned and instructing body, and the administrative organ of all other scientific and literary establishments.

Between the report of M. de Talleyrand to the Constituent Assembly and that of M. de Condorcet to the Legislative Assembly, the filiation is visible. They have traveled along the same declivity, but the space included is immense. With the latter, philosophical ambition has given way to revolutionary excitement. A special and exclusive feeling of policy governs the work; equality is its principle and sovereign end. "The order of nature," says Condorcet, "includes no distinctions in society beyond those of education and wealth. To establish amongst citizens an equality in fact, and to realize the equality confirmed by law, ought to be the primary object of national instruction. In every degree, and in all public establishments, the teaching should be entirely gratuitous; instruction without charge should be the first consideration in respect of social equality." The report and plan of Condorcet are entirely devoted to this tyrannical notion of equality, which penetrates even to the heart of the great national association of science and art destined to crown the edifice. "No member can belong to two classes at the same time; this is injurious to equality."

In the report of M. Daunou to the National Convention, liberty assumes a larger share than equality. He reproaches his predecessors with not having sufficiently acknowledged and secured its rights. In the plan of M. de Talleyrand, he found "too much respect for old forms, too many bonds and impediments." "Condorcet," he said, "proposed to institute in some degree an academic church." M. Daunou desires no public organization of scientific or literary instruction. The state, according to him, should only interfere with elementary and professional training. Beyond that, "liberty of education, liberty of private seminaries, liberty

of method." But, with this extended notion of freedom in public instruction, M. Daunou has also his fixed idea and mania. The passion of republicanism is with him what that of equality is with M. de Condorcet. "There is no genius," says he, "except in a republican soul. A system of public instruction can only be carried on in community with a republican government." Under the empire of such a constitution, "the most extensive means of education," he continues, "are in the establishment of national festivals;" and he devotes an entire section of his proposed bill to the enumeration and arrangement of these annual ceremonies, to the number of seven; festivals in honor of the republic, of youth, of marriage, of gratitude, of agriculture, of liberty, and of old age.

In the midst of the revolutionary tempest, all these plans and devices, alternately liberal, dangerous, or puerile, remained without results. Universal and gratuitous elementary education was decreed, but there were neither seminaries nor teachers. A system of secondary instruction was attempted, under the title of *central schools*, which, notwithstanding ingenious and promising appearances, responded neither to the traditions of teaching, the natural laws of intellectual development in man, nor the moral requirements of education. In high and special instruction, some important and celebrated associations sprang up. The Institute was founded. The mathematical and physical sciences lavished on society their services and their glory, but no great and effective combination of public teaching replaced the departed establishments. Much had been promised and expected, but nothing was done. Chimæras hovered over ruins.

The Consular government proved itself more in earnest and effective. The law of the first of May, 1802, futile as regarded elementary teaching, incomplete and hypothetical on the higher branches, reestablished, under the name and fosterage of Lyceums, a well-based system of secondary education, comprising sound principles, and securities for social influence and duration. The work, however, was deficient in originality and grandeur. Public instruction was considered simply as an administrative duty, and, under that title, was included, with all its components, in the numerous and opposite functions of the Minister of the Interior. Neither its proper rank, nor the suitable mode of its government, were defined. It fell under the control of that official mechanism which knows how to regulate and direct material business, but with which the arrangements of moral order can not amalgamate.

The Emperor Napoleon did not deceive himself on this point. Warned by those lofty and clear instincts which revealed to him the true nature of things, and the essential attributes of power, he recognized, as soon as he gave his unbiased reflection to the subject, that public instruction could neither be yielded up entirely to private industry, nor regulated by ordinary administration, as were the domains, finances, or highways of the state. He comprehended that to give the parties intrusted with education, respect, dignity, confidence in themselves, and a spirit of devotedness to their calling, in order that these men, unassuming and weak,

should feel satisfied and proud in their obscure positions, it was necessary that they should be associated and linked as it were together, so as to form a body, which might reflect on them its strength and importance. The remembrance of the old religious and scholastic corporations then recurred to him. But while regarding with willing admiration what had long existed with éclat, he discriminated their evil qualities, which would be more injurious now than formerly. The religious institutions were too much estranged from the government of the state, and from society itself. Through celibacy, the absence of all individual property, and many other causes, they lived almost entirely without generous interests, habits, or sentiments. Government exercised upon them an indirect, sparing, and disputed influence. Napoleon felt that, in the present day, the educational department should be laical, social, connected with family interests and property, and intimately united, save only in their special mission, with civil order and the mass of their fellow-citizens. He saw also that this body should hold closely to the state government, receive its powers from that source, and exercise them under its general control. Napoleon created the University, adapting, with admirable discernment and freedom of spirit, the maternal idea of the old educational corporations to the new state of society.

The best works can not escape the contagion of the vices of their authors. The University was founded on the principle that education belongs to the State. The State was the Emperor. The Emperor willed, and was in possession of uncontrolled authority. The University, from its birth, embodied a system of absolute power. Beyond the institution, neither family rights, nor those of the church, nor of private industry, were acknowledged or respected. Even in the very bosom of the establishment, there were no real guarantees for the position, dignity, and just independence of persons. If in France the Emperor was the State, in the University the head master was the Emperor. I employ expressions too absolute: the government of the University, in fact, has always sought to modify opposing rights. But whatever may be the prudence or inconsistency of men, principles bear their fruit. According to the principles of the University system, as regarded public instruction, there was no liberty for the citizens, and no responsibility of the authorities to the country.

Thus, when the Charter established free legislation in France; when the liberty of the citizens, and the responsibility of power, became the common law and practice of the land, the embarrassment of the University and of the government, in respect to it, became extreme. Its maxims, rules and traditions no longer accorded with the general institutions. In the name of religion, of families, of liberty, and of publicity, claims were raised around and against the University which it was unable to repel without coming into collision with the constitutional system, or to admit without falsifying or mutilating itself. The power which governed it, either under the name of Head Master, Royal Council, or President, was neither a minister, nor sufficiently small and dependent to be merely

the subordinate of a minister. No minister would become responsible for it, and it could not carry in itself, either with the Chambers or the public, the weight of responsibility. During six years, from 1815 to 1821, men of a superior cast, M. Royer-Collard, M. Cuvier, M. Sylvestre de Sacy, and M. Lainé, employed their talents and influence in this anomalous situation. They gained time; they saved the life of the University, but without solving the question of its constitutional existence. It was a piece, which, in the new machine of government, found neither its place nor its game.

Fortune has its combinations which seem to mock human foresight. It was under a ministry, looked upon, not without reason, as hostile to the University, and at the moment when it most dreaded an attack, that it emerged from its perplexing situation, and assumed its rank in the state. M. de Villèle had appointed the Abbé Frayssinous Head Master. Public instructions was placed under the direction of a bishop. To satisfy the clergy, and to bring them at the same time under his influence, M. de Villèle required something more. He associated the Church in the government of the State. He made the Bishop of Hermopolis minister of ecclesiastical affairs, giving him at the same time the title and functions, not only of Head Master of the University, but also of Minister of Public Instruction. Public Instruction thus became officially included amongst the great public offices, and the University entered, in the train of the Church, into all the frame-work and conditions of the constitutional system.

Within four years after, it made another step in advance. Everywhere dreaded and violently opposed, ecclesiastical preponderance was particularly suspected in the matter of public instruction. The liberal movement which, in 1827, displaced M. de Villèle and brought the Martignoc Cabinet into office, had also its effect upon the University. The royal ordinance of the 4th of January, 1828, in naming the new ministers, declared, "that for the future, public instruction should no longer form a part of the ministry of ecclesiastical affairs; and on the 10th of February following, it became, in the State councils, a special and independent department, confided to M. de Vatimesnil.

This rational and prudent organization was then only ephemeral. Under M. de Polignac, party passions resumed their ascendancy. The University fell back into the hands of the Church. There was again but one minister of ecclesiastical affairs and of public instruction. The Revolution of 1830 at first allowed this state of things to continue; only by an ill-judged concession to the vanity of the laical spirit, and as if to mark its victory, it changed words and displaced ranks. The University took precedence over the Church, by the appointment of a Minister of Public Instruction and Worship. It was under this title and with these functions, that the Duke de Broglie, M. Mérilhou, M. Barthe, the Count de Montalivet, and M. Girod de L'Ain, filled the department until the formation of the cabinet of the 11th of October, 1832.

In accepting the Ministry of Public Instruction, I was the first to

require that it should be separated from that of Worship. As a Protestant, it was neither fitting that the latter should be offered to me, or that I should undertake it. I venture to think that I should have given the Catholic church no reason to complain; that I should perhaps have better understood and defended it than many of its disciples; but there are appearances which ought never to be encountered. The administration of Public Worship was then blended with the duties of the Minister of Justice. It was, in my opinion, an error not to form it into a distinct department. Such an honor was due to the importance and dignity of religious interests. In these, our days, and after so many victories, the laical power could not too much conciliate the susceptible pride of the clergy and its leaders. It is, besides, an ill-arranged combination to place the relations of the Church with the State in the hands of its rivals or official overseers. To display mistrust is to inspire it, and the best mode of living on good terms with the Church is to acknowledge frankly its importance, and to yield full admission to its place and purpose. Reduced entirely to Public Instruction, the duties of the department I was about to occupy were, in this light, very incomplete. The University was its cradle, from which it had not yet issued. The head master of the University had assumed the title of Minister of Public Instruction in general, but without becoming so in effect. I demanded for this ministry its natural privileges and limits. On the one hand, all the great educational institutions founded in no connection with the University, the College of France, the Museum of Natural History, the School of Charters, and the schools specially applied to Oriental languages and archeology; and on the other, the establishments dedicated, not to instruction, but to the glory and advancement of science and letters,—the Institute, the various learned societies, the libraries, and all other encouragements to literature, were, from that time, placed under the authority of the minister of Public Instruction. There are still some gaps in the privileges, which of right belong to this department. Amongst others, it has not in the direction of the Fine Arts the influence that it ought to exercise. Art and literature are naturally and necessarily linked together. It is only by this intimate and habitual intercourse that they can be assured of maintaining their suitable and elevated character,—the worship of the beautiful, and its manifestation in the eyes of men. If Leonardo da Vinci and Michael Angelo had not been scholars, passing their lives in the learned world of their age, their influence, and even their genius, could never have displayed themselves with such pure and powerful effect. Placed beyond the sphere of letters, and within the ordinary domain of administration, the arts incur a serious risk of falling under the exclusive yoke of material utility, or of the narrow caprices of the public. The department of Public Instruction has still, in this particular, and for the interest of the arts themselves, an important conquest to achieve. In a general sense, however, it received, at the time of my appointment, its legitimate extent and rational organization. From 1824 to 1830, it had been little more than an expedient. In 1839, it became,

in the aggregate of our institutions, a piece of complete and regular machinery, capable of rendering to society and power, both in moral and intellectual order, the services with which, now more than ever, they can not afford to dispense.

In assuming the ministry of Public Instruction, I took a special interest in the organization of elementary schools. Because I have opposed democratic theories, and resisted popular passions, it has been often said that I had no love for the people, no sympathy for their miseries, instincts, necessities, and desires. In public, as in private life, there are more classes of affections than one. If what is called love for the people, means to participate in all their impressions, to study their tastes rather than their interests, to be on all occasions ready to think, feel, and act with them,—I admit at once this forms no part of my disposition. I love the people with a profound, but at the same time independent and somewhat anxious attachment. I wish to serve them, but am no more disposed to become their slave than to use them for any advantage but their own. I respect while I love them, and this very respect restrains me from deceiving them, or from aiding them to deceive themselves. Sovereignty is yielded up to them; complete happiness is promised; they are told that they have a right to all the powers of society, and all the enjoyments of life. I have believed that they had both the right and necessity of becoming capable and worthy of being free; that is to say, of exercising in their public and private allotment the share of influence which the laws of God permit to man in human life and society. For this reason, while sympathizing deeply with the physical privations of the people, I have been more preëminently moved and engrossed by their moral wants; holding it for certain that, in proportion as the latter are ameliorated, they will struggle the more effectually against the former; and that to improve the condition of men we must first purify, strengthen, and enlighten their minds.

It is to the strong conviction of this truth that the importance universally attached to popular teaching in the present day is to be ascribed. Other instincts, less pure and salutary, are mixed up with it: pride, a presumptuous confidence in the merit and power of intelligence alone, immeasurable ambition, and the passion of a pretended equality. But in spite of this confusion in the sentiments by which it is recommended, in spite of its intrinsic difficulties, and of the uneasiness it still excites, popular teaching is not the less, in the age in which we live, and both on principles of right and fact, an act of justice towards the people, and a necessary requisition of society. During his mission in Germany, one of those men who have the most profoundly studied this great question, M. Eugène Rendu, inquired of a learned and respectable prelate, the Cardinal de Diepenbrock, Prince Bishop of Breslau, "whether, according to his idea, the diffusion of education amongst the masses would produce any danger to society." "Never," replied the Cardinal, "if religious feeling assigns to education its proper end and governs its course. Besides which, the question is no longer in debate; it is

distinctly laid down. When the car is on the rails, what remains? To guide it."

In 1832, there was something more for us to do than merely to guide the car. It was necessary to give it effective and durable motion. When we examine closely what has taken place between 1789 and 1832, in regard to elementary education, we are equally impressed with the power of the idea and the futility of the efforts made to realize it. It engages the attention of all who govern, or aspire to govern France. When eclipsed, for a moment, it is only under the pressure of more urgent prepossessions, and speedily reappears. It finds its way even to the hearts of the parties and authorities who seem to fear it most. Between 1792 and 1795, the National Convention issued seven decrees for the establishment of preparatory schools, prescribing their nature and regulation; mere words, barren of produce, though sincerely meant. The Empire said and thought little of rudiments; secondary instruction was the favorite object of its solicitude and skillful superintendence. Nevertheless, we encounter a man in the Imperial councils, unassuming in rank, but of a mind and reputation sufficiently exalted to draw public attention to his labors and ideas, whatever might be their object. M. Cuvier traveled through Holland, Germany, and Italy, and on his return, described the public educational establishments he had visited, particularly the elementary schools of Holland, the sound practical organization of which had strongly impressed him. A lively interest was immediately excited in favor of these schools, which led to much reflection, conversation, and regretful comparisons. The Empire fell; the Restoration succeeded; the great political contests recommenced; but in the midst of their clamor, the government of public instruction passed into the hands of men who sincerely desired the good of the people without undue adulation. M. Boyer-Collard became director; M. Cuvier exercised an important influence. They applied themselves to the increase, improvement, and effective superintendence of elementary schools. The king issued decrees commanding and regulating the coöperation of local authorities and sympathies. The Council of Public Instruction carried on an unremitting correspondence to insure the execution of these ordinances. New methods were announced in Europe with considerable stir; mutual teaching and simultaneous teaching—the systems of Dr. Bell and Mr. Lancaster. Some minds were excited to enthusiasm, others to uneasiness. Without taking any decided part, either in adoption or denial, the Council received, encouraged, and superintended all.

Political power changed hands, passing over to the party that distrusted this liberal impulse; but while they humored the suspicions, and made fatal concessions to the demands of their adherents, the intelligent leaders of this party had no desire to be looked upon as enemies to national education. They felt that a force was therein comprised which would not suffer itself to be strangled, and endeavored, by concession, to turn it to their own advantage. Between 1821 and 1826, eight royal decrees, countersigned by M. Corbière, minister of the Interior, author-

ized, in fourteen departments, religious associations, honestly devoted to elementary instruction, and thus established, in point of fact, a certain number of new schools. The Brethren of Christian Instruction, founded in Brittany by the Abbé J. M. de la Mennais; the Brethren of Christian Doctrine of Strasbourg, Nancy, and Valence; the Brethren of St. Joseph, in the department of the Somme; the Brethren of Christian Instruction of the Holy Spirit, in five departments of the west, all date from and reflect honor on this period. Another political shock carried back the government of France into other ranks. The Martignac ministry replaced the Villèle cabinet. One of the first cares of the new minister of Public Instruction, M. de Vatimesnil, was not only to confer additional encouragement on the elementary schools, but to restore to their administration the decrees called forth by M. Cuvier in 1816 and 1820. The fatal crisis of the Restoration approached; its evil genius prevailed in its general politics. Called in November, 1829, to the cabinet of the Prince de Polignac, as minister of Public Instruction, M. Guernon de Ranville proposed, nevertheless, excellent measures for the extension of elementary schools, and the introduction of a superior class of teachers. He was met by doubts, objections, and timid but repeated resistance. He persisted, however, and at his request, the king, Charles X., signed a decree, remarkable not only for its practical conditions, but for the official expression of the ideas and sentiments by which they were accompanied. It can not be said that from 1814 to 1830, elementary instruction suffered nothing from political attacks, but still it did not completely perish in the dangerous contact. Whether from equity or prudence, the very powers that suspected its intentions felt called upon to view it with a kindly eye, and to second its progress.

The government of 1830 was bound to be, and proved itself, from its origin, highly favorable to elementary instruction. M. Barthe, under the ministry of M. Laflotte, and M. de Montalivet, under that of M. Casimir Périer, hastened to bring forward, one in the Chamber of Peers, the other in the Chamber of Deputies, bills to promote the rapid increase of primary schools, bestowing on them securities for the future, and infusing into this first stage of instruction the liberty promised by the charter. The government and the chambers vied with each other in the promotion of this object. At the moment when these bills were introduced, two spontaneous propositions emanated from the Chamber of Deputies, conceived in principles differing in some degree, but inspired by the same spirit and leading to a uniform design. M. Daunou drew up a report on one of the bills, distinguished by profoundly liberal feeling, a language skillfully measured, and a visible dislike, though at the same time discreetly restrained, for the Imperial University. But none of these bills were subjected even to debate. The movement was stamped, the obstacles swept away, the public impatient to see elementary education finally established. When the cabinet of the 11th of October, 1832, assumed office, the work was on all sides demanded, and solemnly promised, but scarcely yet in operation.

I had around me in the Royal Council of Public Instruction all the lights and supports I could possibly desire for its full accomplishment. Invented in letters, in science, and in the world's opinion, with that authority so liberally conceded, which superior talent and long experience confer, the members of this Council were, moreover, my literary associates and friends. We lived in close and mutual intimacy. Whatever might be the difference of our studies and labors, we had all, on the subject of national education, the same ideas and desires. M. Villemain and M. Cousin, M. Poisson and M. Thénard, M. Guéneau de Mussy and M. Rendu, engaged with as much interest as myself in the measure we were preparing together. M. Cousin, during his travels in Germany in 1831, and in the able report published on his return, had studied and carefully laid down all the incidental questions. I doubt if they were ever more seriously debated than in our private council before the introduction of the bill.

The first point, and one which, not only in my estimation, but in that of many sound thinkers, still remains undecided, was, whether the elementary instruction of all children should be an absolute obligation imposed by the law on their parents, and supported by specific penalties in case of neglect, as adopted in Prussia and in the greater portion of the German States. I have nothing to say in respect to the countries where this rule has been long established, and acknowledged by national sentiment. There it has certainly produced beneficial results. But I must observe that it is almost exclusively confined to nations hitherto exacting little on the question of liberty, and that it has originated with those with whom, through the Reformation of the sixteenth century, the civil power is also in matters of religion, or touching upon religious interests, the sovereign authority. The proud susceptibility of free peoples, and the strong mutual independence of temporal and spiritual power, would accommodate themselves badly to this coercive action of the state on the domestic economy of families: where not sanctioned by tradition, the laws would fail to introduce it, for either they would be confined to an empty command, or to compel obedience they would have recourse to proscriptions and inquisitorial searches, hateful to attempt, and almost impossible to execute, especially in a great country. The National Convention tried, or rather decreed this, in 1793, and amongst all its acts of tyranny, this, at least, remained without effect.

Popular instruction is at present, in England, whether on the part of national and municipal authorities, or of simple citizens, the object of persevering zeal and exertion. No one proposes to enforce the obligation on parents by law. The system prospers in the United States of America, where local governments and private societies make great sacrifices to increase and improve the schools; but no efforts are attempted to intrude into the bosoms of families to recruit the scholars by compulsion. It forms a characteristic and redounds to the honor of a free people, that they are at the same time confiding and patient; that they rely on the empire of enlightened reason and well-understood interests, and know

How to wait their results. I care little for regulations that bear the impress of the convent or the barrack room. I therefore decidedly expunged constraint from my bill on elementary education, and none of my fellow-laborers insisted on its being retained, not even those who regretted the omission.

Next to the question of compulsory elementary education, came that of free primary instruction. Here, indeed, there could be no doubt. The Charter had promised liberty on this point, and it was not in regard to the first principles of instruction that this promise could give rise to opposite interpretations or lengthened disputes. No one thought of demanding that elementary education should be entirely committed to private industry, evidently incapable of furnishing the necessary supply, and little tempted to undertake it. The labor is immense, and without brilliant perspectives. The interference of the state here becomes indispensable. A free competition between the government and private individuals, private and public schools opened side by side, and under the same regulations, comprised all that the most exacting liberals required, and produced no opposition from the staunchest supporters of power.

A third question gave rise to more discussion. In the public schools, should elementary instruction be absolutely gratuitous, and supplied by the state to all children of the soil? This was the dream of generous spirits. Under the constitution of 1791, the Constituent Assembly had decreed that "a system of public instruction should be created and organized, common to every citizen, and gratuitous with regard to those branches of education indispensable to all men." The National Convention, while maintaining this principle, fixed the salaries of the tutors at a *minimum* of 1,200 francs. Experience has proved the vanity of these promises, as irrational as they were impracticable. The state is bound to offer elementary instruction to all families, and to give it to those who have not the means of paying for it; and thus it does more for the moral life of the people than it can effect for their material condition. This I consider the true principle of the question, and this I adopted in my bill.

These general and in some degree preliminary points being disposed of, there remained others of a more special character, the solution of which formed the text and scope of the bill. What were to be the objects and limits of elementary instruction? How were the public institutions to be formed and recruited? What authorities were to be charged with the superintendence of the elementary schools? What should be the means and securities for the effective execution of the act?

Amongst the feelings which may animate a nation, there is one, the absence of which would be much to be deplored if it existed not, but which we should take care neither to flatter nor excite where we find it in exercise—the sentiment of ambition. I honor aspiring spirits. Much is to be expected from them, provided they can not easily attempt all they desire to accomplish. And as, in our days, of all ambitions the most ardent if not the most apparent, especially amongst the industrial

classes, is the ambition of intelligence, from which they look for the gratifications of self-love and the means of fortune—it is that, above all others, the development of which, while we treat it with indulgence, we should watch over and direct with unceasing care. I know nothing at present more injurious to society, or more hurtful to the people themselves, than the small amount of ill-directed popular erudition, and the vague, incoherent, and false, although at the same time active and powerful ideas with which it fills their heads.

To contend with this danger, I distinguished in my proposed bill two degrees of primary education. The one elementary and universally required in the most remote rural districts, and for the humblest of social conditions; the other more elevated, and destined for the working population, who in towns and cities have to deal with the necessities and tastes of civilization more complicated, wealthy, and exacting. I confined elementary instruction strictly within the simplest and most extensively practiced branches of knowledge. To the primary instruction of a higher order, I assigned greater scope and variety, and while pre-arranging its principal objects, the bill added, "that it might receive the development which should be considered suitable, according to the wants and resources of particular localities." I thus secured the most extended advances to primary instruction where they would be most useful and natural, without introducing them in quarters where their inutility would be perhaps their least defect. The Chamber of Deputies required that the prospect of a variable and indefinite extension should be left open to primary elementary instruction as well as to primary superior instruction. I did not feel myself bound to contend obstinately against this amendment, which met with almost general approbation; but it indicated a very slight conception of the end proposed in the bill by distinguishing the two degrees of primary education. It is precisely on account of its universal necessity that primary elementary instruction ought to be extremely simple and nearly always uniform. It was enough for social distinctions and the spirit of ambition in popular teaching, to open schools in the same class of a superior order. A disposition to extend, from a mere idea rather than from absolute need, the first principles of instruction, is unworthy of legal encouragement. The object of the laws is to provide what is necessary, not to step in advance of what may become possible; their mission is to regulate the elements of society, not to excite them indiscriminately.

The education of the teachers themselves is evidently a most important point in a law for popular instruction. To meet this, I adopted, without hesitation, the system of primary normal schools commenced in France in 1810, and which already, in 1833, numbered forty-seven establishments of this nature, created by the voluntary efforts of the departments or towns, and encouraged by the government. I formed them into a general and compulsory institution. In the actual state, and with the essentially laical character of our present society, this was the only method of securing at all times a sufficient number of masters for ele-

mentary instruction, properly trained to their required duties. It furnishes, moreover, an intellectual career to those classes of the population who have little before them on their entry into life beyond employments of physical labor, and introduces a moral influence amongst large communities, over whom, in the present day, power seldom acts except by tax-gatherers, commissaries of police, and gend'armes. Undoubtedly the education of the tutors in the normal schools in which they are trained, and their influence when they are thus trained, may be defective and injurious; there is no institution, however good in itself, which, ill-directed, may not turn to evil, and which, even under sound regulation, is exempt from inconvenience and danger. But this is no more than the common condition of all human undertakings; and not one would ever be accomplished if we did not resign ourselves to the acceptance of its faults, and to the necessity of unremitting watchfulness lest the tares should overrun the field and choke the grain.

While converting these elementary normal schools into a public and legalized institution, I was far from seeking to destroy or even to weaken the other nurseries of teachers supplied by religious associations dedicated to popular education. On the contrary, I desired also that the latter should extensively develop themselves, and that a wholesome competition should be established between them and the laical seminaries. I even wished to go a step beyond, and to confer on the religious communities so employed a special mark of confidence and respect. In the greater part of the royal ordinances issued between 1821 and 1826, for the establishment of associations of this nature, and more particularly for that of the Congregation for the advancement of Christian Knowledge, founded by the Abbé de la Mennais in the departments of Brittany; for another under the same denomination at Valence, and for the Brethren of St. Joseph, in the department of the Somme, it was provided that "the certificate of capability required from all elementary teachers should be delivered to every brother of these various congregations, on sight of the particular letter of obedience transmitted to him by the superior-general of the establishment to which he belonged." It appeared to me that in this release from a fresh examination accorded to the members of religious societies, formally acknowledged and authorized by the state as popular teachers, there was nothing beyond what was perfectly just and consistent, and I would readily have inserted it in my bill; but it would have been assuredly rejected by the public of that day as well as by the Chambers. The debate that sprang up when we went into an examination of the authorities to be intrusted with the superintendence of the elementary schools, clearly indicated the prevailing spirit.

The state and the church, on the question of popular instruction, are the only effective authorities. This is not a conjecture founded on general considerations; it is a fact historically demonstrated. The only countries and times in which public education has really prospered have been those where the church or state, or both in conjunction, have considered its advancement their business and duty. Holland and Germany,

whether Catholic or Protestant, and the United States of America, may be readily cited as evidences. The accomplishment of a similar work requires the ascendancy of general and permanent power, such as that of the state and its enactments; or of another moral authority ever present and equally enduring—the church and its militia.

But while the action of the church and the state is indispensable for the diffusion and solid establishment of public education, it becomes equally important, to render such education really good and socially profitable, that this action should be profoundly religious. I do not mean that religious instruction should merely take its place there, and outward practices be observed. A nation is not religiously educated on such limited and mechanical conditions. Popular education ought to be given and received in the bosom of a religious atmosphere, in order that corresponding impressions and habits may penetrate from every side. Religion is not a study or an exercise to which a particular place or hour can be assigned. It is a faith, a law which ought to make itself felt everywhere and at all times; and on no other condition can it exercise the full extent of its salutary influence on the minds and actions of men.

Thus, in elementary schools, the sentiment of religion ought to be habitually present. If the priest mistrusts or separates from the tutor, or if the tutor looks upon himself as the independent rival, not the faithful auxiliary of the priest, the moral value of the school is lost, and it is on the verge of becoming a danger.

When I presented my bill, and even before experience had imparted to my mind its valuable light, I felt thoroughly convinced of these truths. They had regulated my labors; although from an instinctive estimate of public prejudices, I adopted and applied them with circumspection. It was upon the preponderating and combined action of church and state that I relied for the establishment of elementary instruction. Now, the prevailing fact I encountered in the Chamber of Deputies and in the country at large, was precisely a sentiment of suspicion and almost of hostility against both. In the schools they dreaded above all things the influence of the priests and of the central power. The principal object of solicitude was to protect beforehand, and by legal enactment, the free action of the municipal authorities, and the total independence of the teachers in reference to the clergy. The opposition openly advocated that system, and the conservative party, too often governed in their inmost feelings and almost unconsciously by the very ideas they dread, combatted it without energy. I had proposed that the curate or pastor should by right be a member of the committee appointed in every township to superintend the school, and that the minister of Public Instruction should hold the exclusive appointment of the tutors. In the Chamber of Deputies, both these provisions were thrown out in the first debate, and it required the vote of the Chamber of Peers and my own perseverance in a second discussion to secure their retention in the act. There seemed to be considerable uneasiness as to the spirit that might possess the teachers. Much was said on the necessity of placing them under

effectual control, and great efforts were made to weaken or remove altogether from the schools the interference of church or state; in fact, to take away the only authorities capable of rooting out the pernicious seeds which the age had planted there with overflowing hands.

Notwithstanding these combats and mistaken objections, I had no right, if I speak candidly, to complain in this particular instance, either of the Chambers or the public. The bill on elementary education was received, discussed, and carried favorably, without material alteration. There remained only the great trial under which all preceding laws on this question had given way. How was it to be carried out?

It required two distinct modes of proceeding—administrative and moral measures. It was necessary that the provisions of the act for the creation, maintenance, and superintendence of the schools, and for the condition of the tutors, should become substantial and permanent facts. It was equally essential that the teachers themselves should be fully imbued with the understanding and spirit of the law of which they were to become the final and true executors.

With regard to administrative measures, the law had foreseen and provided the most essential. Not confining itself to ordaining in every township throughout the kingdom the establishment of elementary schools, whether primary or superior, it had decreed that a suitable residence should in all places be provided for the teachers; and that when the ordinary revenues of the district might be found insufficient, the necessary provision should be levied by two special and compulsory taxes—one to be voted by the municipal councils, and the other by the general councils of the department; or, in default of these votes, by a royal decree. If even these local imposts should prove inadequate, the minister of Public Instruction was empowered to make up the deficiency by a grant drawn from the credit annually carried to the account of elementary education in the state budget. The permanent existence of the schools and the means of supplying their natural wants were thus secured, independently of the intelligence and zeal of the populations for whose benefit they were instituted, while at the same time the central power could never find itself disarmed in presence of their evil designs or apathy.

An obstacle of considerable weight opposed itself to the effectual and regular execution of these arrangements. They required the coöperation of the general government of the state, represented in the several localities by the prefects and their subordinates; and also of the special superintendents of public education, embodied in the rectors and functionaries of the University. Every one knows how difficult it is to unite together for one common object a double series of public agents, exercising opposite duties and acting under different heads. After coming to an understanding on these points with M. Thiers, at that time minister of the Interior, I addressed detailed instructions to the prefects and rectors, explaining to all their particular duties in the execution of the new law, and the conditions under which they were to act in concert. I went a step beyond this. At my instance it was decided in a cabinet council, that

elementary instruction should constitute annually, in each department, the object of a special budget, to be included in the general estimate of supply for that department; and which should also, every year, be separated from it, and forwarded to the minister of Public Instruction for his examination, as the general budget was submitted to the secretary of the minister of the Interior.

I hereby accomplished a double end. On the one hand, I placed, in every locality, primary instruction, its necessities, resources, and expenditure, apart and in bold relief; thus constituting it a real and permanent local institution, invested with rights, and the object of special superintendence. On the other hand, while securing for elementary education the coöperation of the general government, I connected it closely with the duties of the minister of Public Instruction, as the first step in the comprehensive scheme which the genius of the Emperor Napoleon had founded under the title of *University of France*, the grandeur and harmony of which I ardently desired to maintain by adapting it to a free system, and to the general principles of state government.

I could never have carried out this somewhat complicated design, had I not found in M. Thiers that enlargement of mind and devotion to the public good which silence the suspicious rivalries of office, and the influence of narrow personal jealousies. He acceded frankly to the trifling alterations I proposed in the usual routine of the ministry of the Interior, and facilitated this common action in our respective departments, which the new law on elementary education required for its prompt and complete success.

Eight days after the formation of the cabinet, as soon as I began to occupy myself with this bill, and to prepare it for the Royal Council, as also for its future agents, I ordered a periodical list to be drawn up under the title of *General Manual of Primary Instruction*, with the view of placing at once under the eyes of the teachers, administrators, and inspectors of schools, the facts, documents, and ideas, which might interest or enlighten them. When the act passed, I caused five elementary manuals to be arranged and published as guides to the teachers in the restricted course of instruction, the limits and objects of which were expressly indicated. I lost no time in providing for the intellectual wants of these schools and their masters, whose material necessities, if not fully satisfied, were at least protected from destitution and oblivion.

The best laws, instructions, and books, avail but little, if the hearts of the parties charged with their promulgation are not interested in the mission confided to them; and if they do not second it with a certain amount of enthusiasm and faith. I neither undervalue legislative labor nor the mechanism of administration. Though insufficient, they are not the less necessary. They are the plans and scaffoldings of the building to be constructed; but the workmen, the intelligent and devoted artificers, are infinitely more important. Above all other considerations, men must be formed and adapted to the service of ideas, if we wish to convert the latter into real and living facts. I endeavored to penetrate even to



Dana P. Colburn.

Principal of the Rhode Island State Normal School.

the very soul of popular teachers, and to excite amongst them enlightened notions and an affectionate respect for the task to which they were called. Within three weeks after the act on elementary education had been published, I forwarded it directly to 39,300 masters of schools, accompanied by a letter in which I not only explained to them its bearings and conditions, but endeavored also to raise their feelings to the moral level of their humble position in the social scale, without suggesting to them either a pretext or a temptation for soaring above it. I required them to acknowledge to me personally the receipt of this letter, and to state the impression it had left on their minds. Thirteen thousand eight hundred and fifty answers reached me in reply, many of which led me to conclude that I had not always knocked in vain at the doors of these unpretending abodes, where thousands of obscure children were destined to receive from an unknown individual the first, and in many instances the only scholastic lessons of their lives. This experiment, joined to others, has taught me, that when we wish to act with more than ordinary power upon men, we ought not to be afraid of pointing out to them an object, or of addressing them in a language above their situation and habits; neither should we feel discouraged if many amongst them fail to respond to these unaccustomed invitations. They attract a far greater number of minds than they repulse, and we may still believe in the virtue of the seed, even when the fruits fail to appear.

When I conceived the idea of this circular letter to the teachers, I mentioned it to M. de Rémusat, and begged him to draw it up for me. As I received it from him, it was dispatched to its destination and soon after published. It gratifies me to repeat this here. Rare friendships survive mental doubts and the troubles of life, even when they seem to have suffered from them.

Another plan, unforeseen and difficult of execution, appeared to me necessary in order to establish relations with the teachers dispersed throughout France, to know them really, and to act upon them in other ways than by casual and empty words. One month after the promulgation of the new law, I ordered a general inspection of all the elementary schools in the kingdom, public or private. I desired not only to verify the external and material facts which usually form the object of statistical inquiries on the question of primary instruction—such as the number of schools and scholars, their classification, their age, and the incidental expenses of the service—but I particularly directed the inspectors to study the interior economy of the schools, the aptitude, zeal, and conduct of the teachers, their relations with the pupils, the families, and the local authorities, civil and religious; in a word, the moral state of that branch of education, and its results. Facts of this nature can not be ascertained at a distance, by means of correspondence, or descriptions. Special visits, personal communication, and a close examination of men and things, are indispensable to this just estimate and understanding. Four hundred and ninety persons, the greater number of whom were functionaries of every order in the University, gave themselves up during

four months to this arduous investigation. Thirty-three thousand four hundred and fifty six schools were actually visited, and morally described in the reports addressed to me by the inspectors. One amongst the number, with whose rare ability and indefatigable zeal I had long been familiar, M. Lorain, now an honorary rector, drew up from these collected reports a table of elementary instruction in France, in 1833, even more remarkable for the moral and practical views therein developed, than for the number and variety of facts comprised. This laborious undertaking not only had the effect of giving me a more complete and precise knowledge of the condition and real necessities of elementary instruction, but it furnished the public, in the most remote corners of the country, with a living instance of the active solicitude of the government for popular education. At the same time it powerfully stimulated the teachers, by impressing on them a sense of the interest attached to their office, and of the vigilance with which they were overlooked.

Two years later, on my proposition, a royal decree transformed this casual and single inspection of the elementary schools into a permanent arrangement. In every district, an inspector was appointed to visit the schools at stated periods, and to communicate fully to the minister, the rectors, the prefects, and the general and municipal councils, their condition and wants. Since that time, and throughout repeated debates, whether in the Chambers or in the local and elective councils, the utility of this institution has become so apparent, that at the request of a majority of the councils, an inspector has been established in every district, and the periodical inspection of elementary schools has taken its place in the administration of public instruction, as one of the most effective guarantees of their sufficiency and progress.

It has sometimes been a mistake of power when it enters on an important work to wish to carry it out alone, and to mistrust liberty as a rival if not as an enemy. I had no such suspicion. On the contrary, I felt convinced that the coöperation of unfettered zeal, particularly religious zeal, was indispensable, both for the progress of popular teaching and for its sound direction. There are generous impulses in the laical world, emotions of moral ardor which assist the advancement of great public undertakings; but the spirit of Christian charity and faith alone carry into such works that complete disinterestedness, that disposition and habit of self-sacrifice, that modest perseverance, which secure while they purify success. For this reason, I took great pains to defend the religious societies dedicated to elementary education, against the prejudices and ill-feeling by which they were too often attacked. I not only protected them in their liberty, but I assisted them in their wants, looking upon them as the most honorable rivals and the safest auxiliaries that civil authority in its efforts to promote popular education could expect to be associated with. I owe them the justice of declaring that notwithstanding the suspicious susceptibility which these pious brotherhoods naturally felt toward the new government, and a Protestant minister, they soon acquired full confidence in the sincerity of the good-will

I exhibited toward them, and acted with me in the most amicable spirit. While the law of the 28th of June, 1833, was under debate in the Chambers, to mark distinctly this mutual understanding, and to give the principal of these communities, the brethren of Christian Doctrine, a public token of esteem, I directed an inquiry to be made of Brother Anaclet, their superior-general, whether according to the statutes of the fraternity, he was permitted to receive the cross of honor. He replied by the following letter, which I have much pleasure in preserving:—

SIR AND MINISTER:—The proposal so complimentary to our order which M. Delabecque conveyed to me yesterday on the part of your Excellency, has impressed me with a lively sense of gratitude, and has convinced me more and more of the truly paternal benevolence with which the government deigns to honor us.

Our holy institutor has inserted nothing in our rules which formally interdicts acceptance of the offer you have had the goodness to make, without any merit on our part, simply because he could not possibly foresee that his humble disciples would ever have an opportunity of declining such a flattering proposition. But looking at the spirit of our laws, which all lead to inspire estrangement from the world, and a renunciation of its honors and distinctions, we feel ourselves called upon humbly to thank your Excellency for the distinguished offer you have conveyed to us, and to accept with our refusal our excuses and thanks. We shall not the less preserve as long as we live a grateful remembrance of your inestimable goodness, and we shall declare loudly, as is our daily practice, the testimonies of kind feeling and protection we so continually receive from the King's government, and especially from the minister of Public Instruction and the members of the Royal Council.

Another religious society, the congregation of Christian Instruction, founded in Brittany by the Abbé J. M. de la Mennais, particularly attracted my attention and support. The name of the founder, his mind at once simple and cultivated, his entire devotion to his work, his practical ability, his independence toward his own party, the frankness of his intercourse with the civil powers—in fact, every thing connected with his character, inspired me with unsuspicious sympathy, to which he responded by even inviting, of his own accord, (rare confidence in an ecclesiastic,) the official inspection of his schools. On the 3d of May, 1834, he wrote to me as follows: "When I had the honor of seeing you in the month of October last, you were so kind as to tell me that an inspector-general of the University would, on your part, visit my establishment of Ploërmel in 1834. I am most anxious to witness the fulfillment of this obliging promise, but I am also desirous of knowing at what time he will come, for otherwise it is almost certain he would not find me here, owing to the continual journeys I am compelled to take at this season. It is, however, most important that I should meet him, as I have many things to communicate of deep interest for the progress of elementary instruction in Brittany." Two years later, on the 15th of October, 1836, he furnished me with a detailed account of the state of his institution, of the obstacles he encountered, of the insufficiency of his resources, of the wants he wished me to supply; and finished by saying: "The minister of Marine has instructed the Prefect of Morbihan to convey to me his desire of having some of our brethren to instruct the enfranchised slaves of Martinique and Guadeloupe. I have not said no, for it would be a

beautiful and holy work; neither have I yet said *yes*, for the sad objection always recurs, where shall we find the materials of supplying so many wants, and why send our brethren so far off when we are so scantily supplied? * * * Alas! if I were only assisted as I desire!"

Every time that I met this honest and stanch Breton, a pious ecclesiastic and an ardent instructor of the people, so exclusively devoted to his position and undertaking, my thoughts reverted mournfully toward his brother, that great but ill-regulated spirit, lost in his own passions, and confounded amongst the intellectual malefactors of his age; he who seemed born to be one of its severest guides. I have never known nor even seen the Abbé Felicité de La Mennais; I am only acquainted with him through his writings, by what his friends have recorded, and by the bilious, repulsive, and unhappy portrait drawn of him by Ary Scheffer, the painter of the human heart. I admire as much as any one the lofty and daring intelligence which mounts to a pinnacle, and plunges from thence to the extremest boundary of thought, wherever it may be; the grave and impassioned talent, brilliant and pure, bitter and melancholy, elegantly severe, and sometimes touching in its sadness. I feel convinced that he possessed within that soul, where pride wounded to death seemed to exercise sole empire, many noble aspirations, upright desires, and painfully conflicting sentiments. In what have all these gifts eventuated? It will form one of the heaviest and most specious complaints against the age in which we live, to have so reduced this lofty nature, and others of a similar standard whom I abstain from naming, but who under our own observation have equally contributed to their self-abasement. Undoubtedly these fallen spirits were the agents of their own ruin; but they were also exposed to such a host of fatal temptations, they took part in so many seductive and tempestuous scenes, they lived in such a total confusion of human thought, ambition, and destiny, they achieved such easy and brilliant triumphs by their very wanderings, and by flattering the passions and errors of the day—that we can scarcely feel surprise when we mark the growth of the evil seeds that finally overpowered them. For my own part, while contemplating these uncommon men, my illustrious and ill-fated contemporaries, I feel more sorrow than anger, and implore pardon for them, at the very moment when, in my heart, I can not abstain from pronouncing a severe condemnation on their works and their influence.

I return now to elementary education. On the 15th of April, 1834, within a year after the promulgation of the law of the 28th of June, 1833, I communicated to the King the nature of its progress, in a detailed report including acts, documents, and results. I repeat here, in a few words and figures, such of the latter as can be so conveyed. In the course of the year named, the number of primary schools for boys increased from 31,420 to 33,695, and the pupils actually receiving instruction from 1,200,715 to 1,654,828. In 1272 townships, school-houses had been built, purchased, or completely repaired. Fifteen new elementary normal schools had been established. Thirteen years later, by the end

of 1847, through the unremitting efforts of my successors in the department of Public Instruction, the number of elementary schools for boys had augmented from 33,695 to 43,514; that of the pupils from 1,654,828 to 2,176,079; and of the school-houses belonging to the townships, from 10,316 to 23,761. Seventy-six primary normal schools supplied masters to every department. I pass over in silence all that had either been begun or accomplished for girls' schools, asylums, work-rooms, and other establishments directly or indirectly affecting popular education.

Such at the end of fifteen years were the fruits of the law of the 28th of June, 1833, and of the movement which I can not say it created, but which it undoubtedly directed to a real and effective institution.

The year 1848 subjected this law and all others, in common with the schools and France herself, to a terrible trial. As soon as the storm had subsided a little, a powerful reaction sprang up against primary instruction, as also against liberty, movement, and progress. The elementary teachers were accused in the mass of being abettors or instruments of revolution. The imputed mischief was real, though less general than was said and believed. We blame institutions and laws for the mischief we have produced. We accuse them to exonerate ourselves, as the man would do who condemns and abandons his house after he has set fire to it with his own hands. Elementary instruction is not a sovereign panacea capable of curing every moral disease of a nation, nor all-sufficient for intellectual health. It is a salutary or pernicious ingredient, according as it is ill or well directed; restrained within due bounds or carried beyond its proper scope. When a new and influential force, physical or moral, steam or intelligence, once enters the world, it can never be expelled; we must learn how to turn it to profitable account. If we fail to do this, it disseminates pell-mell, and in all directions, fertility and destruction. In our degree and present state of civilization, the education of the people has become an absolute necessity, a fact equally indispensable and inevitable.

Public consciousness is evidently awake to this, for in the catastrophe which demonstrated the weak points of elementary instruction, and in the midst of the clamor excited on that subject, it has not been utterly overthrown. The law of the 28th of June, 1833, has received various modifications, some salutary, others questionable; but all its principles and essential provisions have survived in their full vigor. Founded by that law, primary education is now, amongst us, a public institution and an acquired fact. Much, undoubtedly, remains yet to be done for the judicious government of the schools, to secure in their internal economy those influences of religion and order, of faith and law, which constitute the dignity and safety of a nation. But if, as I confidently trust, God has not condemned French society to exhaust itself, rudely or silently, in fruitless alternations of fever and forgetfulness, of license and apathy, what remains to be effected for the great work of popular education, will accomplish itself, and its completion will not have been purchased at too costly a price.

NOTE.

CIRCULAR drawn up by M. Rémusat, and addressed by M. Guizot to 39,300 elementary teachers in France, in transmitting to them the Act of the 28th of June, 1833:—

Sir:—I send you herewith the law of the 28th of June last, on elementary education; together with a statement of the reasons that led to its enactment when, in obedience to the orders of the King, I had the honor of presenting it, on the 2d of January, to the Chamber of Deputies.

This law is, in reality, the charter of elementary education; and for that reason I am anxious that it should directly reach the knowledge, and remain in the possession of every tutor. If you study it carefully, and reflect with attention on its provisions, as well as on the motives which develop its true spirit, you may be assured of thoroughly comprehending your duties and privileges, together with the new position assigned to you by our institutions.

Do not deceive yourself. Although the career of an elementary teacher may be unostentatious; although his life and labors may, for the most part, be consumed within the boundary of a single township,—those labors interest society at large, and his profession participates in the importance of public duties. It is not for a particular district, or for any interest exclusively local, that the law desires every Frenchman to acquire, if possible, the knowledge indispensable to social existence, without which intelligence languishes, and sometimes becomes brutified. The law is for the state at large, and for the public advantage; and because liberty can neither be assured nor regular, except with a people sufficiently enlightened to listen, under all circumstances, to the voice of reason. Universal elementary education will become henceforward a guarantee for order and social stability. As all the principles of our government are sound and rational, to develop intellect and propagate light, is to confirm the empire and durability of our constitutional monarchy.

Convince yourself, therefore, of the importance of your mission; let its utility be ever present to your thoughts, in the unremitting labors it imposes on you. You will see that legislation and government are strenuously exerting themselves to ameliorate the condition and secure the future of the tutors. In the first place, the free exercise of their profession, throughout the entire kingdom, is assured to them, while the right of teaching can neither be refused nor withdrawn from those who show themselves capable and worthy of such a mission. Every township is bound, moreover, to open an asylum for elementary education. To every commercial tutor a fixed salary is appointed. A special and variable gratuity will increase this allowance. A mode of collection, conformable at the same time to your dignity and your interests, facilitates the recovery of this, without trenching, in other respects, on the liberty of private engagements. By the institution of 'savings' banks resources are provided for the old age of the masters. From their youth, dispensation from military service, proves to them the interest with which they are regarded by society. In the performance of their duties they are subject only to enlightened and disinterested authorities. Their lives are sheltered from arbitrary power and persecution. Finally, the approbation of their legitimate superiors will encourage their good conduct and establish their success; and in some instances, even, a brilliant reward, which their modest ambition could never anticipate, may prove to them that the King's government watches over their services and knows how to honor them.

At the same time I am fully aware that the foresight of the law, and the resources yielded by power, can never render the simple profession of a country tutor as attractive as it is useful. Society is unable to repay to those who devote themselves to these duties, all the advantages they impart. They can not make fortunes, and can scarcely win renown under the painful obligations they encounter. Destined to see their lives pass on in monotonous labors, occasionally exposed to injustice, ingratitude, and ignorance, they would often despond, and break down perhaps, if they did not derive strength and courage from other sources than the prospect of immediate and purely personal interests. A profound sentiment of the moral importance of their efforts, can alone sustain and animate them. The austere gratification of having served their fellow-men, and of secretly contributing to the public good, will constitute the noble salary that conscience only

can bestow. It will be their glory to assume nothing beyond that obscure and painstaking condition, to exhaust themselves in sacrifices scarcely valued by those who profit by them, to labor, in fact, for the advantage of man, and to expect their reward from God alone.

It is also manifest that wherever elementary education has prospered, a religious sentiment has been combined, in those who propagate it, with the taste for enlightenment and instruction. May you, sir, find in these hopes and in their convictions worthy of a sound intellect and a pure heart, an amount of satisfaction and constancy which, perhaps, renown and patriotism alone might fail to bestow.

Viewed in this light, the numerous and varied duties confided to you will appear more easy and agreeable, and will exercise superior empire over your mind. Allow me to recall and impress them on you. Henceforward, on becoming a district teacher, you belong to public instruction. The title you bear, conferred by the minister, is placed under his safeguard. The University claims you; while superintending, it protects and admits you to a proportion of the privileges which render teaching a species of magistracy. But the new character with which you are invested authorizes me to retrace the engagements you contract on receiving it. My right of interference is not limited to a recital of the laws and regulations you are scrupulously to observe; it extends to establishing and maintaining the principles which ought to govern the moral conduct of the tutor, and the violation of which would compromise the very dignity of the body to which he may henceforward belong. It is not enough, in fact, to respect the text of the laws; interest alone would compel so much, for they revenge themselves on those who infringe them; but beyond and above this, it is necessary to prove by conduct that their moral value is understood, that the order they are instituted to maintain is voluntarily and sincerely acknowledged, and that even in default of legal enactment, conscience would supply a power as holy and coercive.

Your first duties, sir, are toward the children confided to your care. The tutor is called by the father of a family to a participation of his natural authority. It becomes him to exercise it with the same vigilance, and almost with the same affection. Not only are the life and health of the child referred to his keeping, but the training of its heart and understanding almost entirely depend on him.

As regards teaching, properly so called, nothing will be wanting that can assist you. A normal school will supply you with lessons and examples; special committees will transmit to you regularly useful instructions, and the University itself will maintain with you a constant correspondence. The King has warmly sanctioned the publication of a journal exclusively applicable to elementary education. I will take care that this *general manual* shall spread in all quarters, together with the official acts that concern you, a knowledge of the best systems, endeavors, and practical ideas that the schools require; a comparison of the results obtained in France and in foreign countries; and, in fine, a summary of all that can direct zeal, facilitate success, and encourage emulation.

But on the point of moral education, I must trust much to yourself. Nothing can supply your own natural inclination to do well. You are aware that herein, beyond all doubt, lies the most important and difficult part of your mission. You must feel that in confiding to you a child, every family calls upon you to make him an honest man, while the state expects a useful citizen. You know that virtues do not always accompany knowledge, and that the lessons imprinted on the infant understanding may become pernicious if addressed to intelligence alone. Let the tutor therefore have no fear of interfering with family rights, by bestowing his first cares on the internal culture of the minds of his pupils. He must be equally cautious not to open his school to the spirit of sect or party, or to instill into the scholars any religious or political doctrines which may place them, as it were, in opposition to the authority of domestic councils; he should therefore rise beyond the passing quarrels which disturb society, to apply himself incessantly to the propagation and establishment of those imperishable principles of morality and reason without which universal order is imperiled; and to the deep implanting into young hearts of those seeds of virtue and honor, which age and passion can not afterwards eradicate. Faith in Providence, the sanctity of duty, submission to paternal authority, respect to the laws, to the sovereign, and to the common rights of all; such are the sentiments the teacher must labor to develop. Never let him, either by conversation or example, incur the risk of undermining

in his pupils the feeling of veneration for worth, never by expressions of hatred or revenge let him incline them to those blind prejudices which create national enemies in the bosom of the nation itself. The peace and concord he will maintain in his school, ought if possible to prepare the tranquility and union of future generations.

The relations between the teacher and the parents ought to be frequent, and cordial. If he does not possess the good-will of the families, his authority over the children will be compromised, and the fruit of his lessons lost. He can not therefore be too prudent and careful in these communications. An intimacy lightly formed might endanger his independence, and sometimes even involve him in those local discussions which so frequently embarrass small communities. While listening complacently to the reasonable demands of relatives, he must take care not to sacrifice his principles of education and the discipline of his school to their capricious desires. A school should represent the asylum of equality, or, to speak correctly, of justice.

The duties of the teacher toward constituted authority are even clearer and not less important. He is himself an authority in his township. How then could he set an example of insubordination? How could he do otherwise than respect the municipal magistrates, the religious directors, the legal powers who maintain public security? What a future would he prepare for the population in the midst of which he lives, if by his ill conduct or mischievous conversation, he were to ferment amongst his pupils that disposition to find fault with and condemn every thing, which may hereafter ripen into an instrument of immorality and anarchy!

The Mayor is the chief of the township, the head of local superintendence. It is therefore the pressing duty as well as the interest of the teacher to treat him on all occasions with the deference to which he is entitled. The parish priest and pastor also demand respect, for their ministry involves the most elevated feelings of human nature. If it should so happen that the minister of religion, by some fatality, were to withhold just cordiality from the teacher, the latter assuredly is not called upon to humiliate himself to regain his good opinion, but he should endeavor with increased assiduity to merit it by his conduct, and wait confidently for the result. Let the success of his school disarm unjust prejudices, let his own prudence remove every pretext for intolerance. Hypocrisy is to be avoided as much as impiety. Nothing can be more desirable than a perfect understanding between the clergyman and the schoolmaster; both are invested with moral authority, and can act in concert to exercise over youth a common influence through different means.

In conclusion, I have no occasion to dwell on your relations with the special authorities which watch over the schools, and with the University itself. You will obtain from them general advice, all necessary directions, and frequently a support against local difficulties and incidental enmity. The administration has no other interests than those of elementary education, which are, in fact, your own. It only requires of you to understand thoroughly and progressively the spirit of your mission. While, on its part, it will carefully protect your rights, your interests, and your future, do you, in turn, maintain by unremitting vigilance the dignity of your position. Do not disorder it by unseasonable speculations, or by employments incompatible with instruction. Keep your eyes fixed on every possible method of improving the instruction you disperse around you. Assistance will not be wanting. In the greater number of large towns, advanced classes are opened; in the normal schools, places are reserved for such tutors as may feel desirous of going there to improve their teaching. Every day it becomes easier for you to obtain, at a trifling cost, a library sufficient for your requirements. Finally, in some districts and cantons, conferences have already been established between the teachers. By these means, they can unite their common experience and encourage each other by mutual aid.

At the moment when, under the auspices of a new legislation, you are about to enter on a new career, when elementary education is destined to become the object of the most extensive practical experience that has ever yet been attempted in our country, I have felt it my duty to detail to you the principles which govern the administration of public instruction, and the hopes founded on your exertions. I rely on your utmost endeavors to insure the success of our undertaking.

NOTE.

The following tribute to M. Guizot for the wisdom with which the Law of Primary Instruction of 1833 was framed, and the prudence and energy with which its introduction was secured, is paid by Mr. Arnold, one of Her Majesty's Inspectors of Schools, in a special Report on "*The Popular Education of France*" to the Commissioners on the State of Popular Education in England.

Such was the law of 1833, not more remarkable for the judgment with which it was framed than for the energy with which it was executed. As if he had foreseen the weak point of his law, the inadequacy of the local authorities to discharge the trust committed to their hands, M. Guizot multiplied his efforts to stimulate and to enlighten them. In successive circulars to prefects, to rectors, to directors of normal schools, to inspectors, he endeavored to procure the active coöperation of all his agents in the designs of the Government, and to inspire in all of them the zeal with which he himself was animated. On behalf of the elementary schools, he strove to awaken that spirit of local interest and independent activity which he and his friends have never ceased to invoke for their country, and the want of which has, since the Revolution, been the great want of France. He succeeded imperfectly in inspiring his countrymen with a faith in habits of local exertion; but he succeeded at last in founding the elementary schools of France, and in inspiring faith in his own zeal for them. In the chamber of the Frère Philippe or of the Père Étienne, as among the Protestant populations of Nismes and of Strasbourg; in the palaces of bishops and in the manses of pastors; in the villages of Brittany and in the villages of the Cevennes—everywhere I found M. Guizot's name held in honor for the justice and wisdom of his direction of popular education when it was in fashion, for his fidelity to it now that it is no longer talked of. Singular confidence inspired in quarters the most various upon the most delicate of questions! which insincere ability can never conciliate, which even sincere ability can not always conciliate; only ability united with that heartfelt devotion to a great cause, which friends of the cause instinctively recognize, and warm towards it because they share it.

The results of the law of 1833 were prodigious. The thirteen normal schools of 1830 had grown in 1838, to seventy-six; more than 2,500 students were, in the latter year, under training in them. In the four years from 1834 to 1838, 4,557 public schools, the property of the communes, had been added to the 10,316 which existed in 1834. In 1847, the number of elementary schools for boys had risen from 33,695, which it reached in 1834, to 43,514; the number of scholars attending them from 1,654,828 to 2,176,079. In 1849, the elementary schools were giving instruction to 3,530,135 children of the two sexes. In 1851, out of the 37,000 communes of France, 2,500 only were without schools; through the remainder there were distributed primary schools of all kinds, to the number of 61,481. The charge borne by the communes in the support of their schools was nearly 300,000*l.* In 1834, the first year after the passing of the new law. In 1849, it had risen to nearly 400,000*l.* The charge borne by the departments was, in 1835, nearly 111,000*l.*; in 1847, it was more than 180,000*l.* The sum contributed by the state, only 2,000*l.* in 1816, 4,000*l.* in 1829, 40,000*l.* in 1830, had risen in 1847 to 96,000*l.* The great inspection of 1834 had been a special effort. But in 1835, primary inspectors, those "sinews of public instruction," were permanently established, one for each department, by royal ordinance. In 1847, two inspectors-general and 153 inspectors and sub-inspectors had been already appointed. An ordinance of June the 23rd, 1836, extended to girls' schools, so far as was possible, the provisions of the law of 1833. Normal Schools for the training of lay schoolmistresses were at the same time formed. In 1837, a similar ordinance regulated infant schools, which had attracted attention since 1827. Classes for adults were also formed, and in 1848, there were 6,877 in number, with 115,164 pupils. Popular instruction was not only founded, but in operation.

listening to practical lectures and discussions, or what would in most cases be better, of holding familiar conversation together on topics connected with the arrangement of schools, or methods of instruction now practised, or recommended in the various periodicals or books which they have consulted, and on the condition of their own schools. But something more permanent and valuable than these occasional meetings, has been aimed at by an organization of the teachers of the state, or at least of a single county, into a Teachers' Institute, with a systematic plan of operations from year to year, which shall afford to young and inexperienced teachers an opportunity to review the studies they are to teach, and to witness, and to some extent practice, the best methods of arranging and conducting the classes of a school, as well as of obtaining the matured views of the best teachers and educators on all the great topics of education, as brought out in public lectures, discussions and conversation. The attainments of solitary reading will thus be quickened by the action of living mind. The acquisition of one will be tested, by the experience and strictures of others. New advances in any direction by one teacher, will become known, and made the common property of the profession. Old and defective methods will be held up, exposed and corrected, while valuable hints will be followed out and proved. The tendency to a dogmatical tone and spirit, to one-sided and narrow views, to a monotony of character, which every good teacher fears, and to which most professional teachers are exposed, will be withstood and obviated. The sympathies of a common pursuit, the interchange of ideas, the discussion of topics which concern their common advancement, the necessity of extending their reading and inquiries, and of cultivating the power and habit of written and oral expression, all these things will attach teachers to each other, elevate their own character and attainments, and the social and pecuniary estimate of the profession."

ITINERATING NORMAL SCHOOL AGENCY.

"With the co-operation of the Washington County Association, the services of a well-qualified teacher were secured to visit every town in that county, for the purpose, among other objects, of acting directly on the schools as they were, by plain, practical exposures of defective methods, which impair the usefulness of the schools, and illustrations of other methods which would make the schools immediately and permanently better."

NORMAL SCHOOL.

"Although much can be done toward improving the existing qualifications of teachers, and elevating their social and pecuniary position, by converting one or more district schools in each town and county, into a model school, to which the young and inexperienced teacher may resort for demonstrations of the best methods; or by sending good teachers on missions of education throughout the schools of a county; or by associations of teachers for mutual improvement,—still these agencies can not so rapidly supply, in any system of public education, the place of one thoroughly-organized Normal School, or an institution for the special training of teachers, modified to suit the peculiar circumstances of the state, and the present condition of the schools. With this conviction resting on my own mind, I have aimed every where so to set forth the nature, necessity, and probable results of such an institution, as to prepare the public mind for some legislative action toward the establishment of one such school, and in the absence of that, to make it an object of associated effort and liberality. I have good reason to believe that any movement on the part of the state, would be met by the prompt co-operation of not a few liberal-minded and liberal-handed friends of education, and the great enterprise of preparing Rhode Island teachers for Rhode Island schools, might soon be in successful operation."

ADDRESSES AND PUBLICATIONS ON THE SUBJECT OF EDUCATION.

The following extract from Remarks of the Commissioner before the Rhode Island Institute of Instruction, will exhibit his mode of preparing the way for a broad, thorough and liberal system of public instruction, by

interesting all who could be reached by the living voice or the printed page, in the nature and means of education, the condition and wants of the schools, and the best modes of introducing desirable improvements.

"To this end public meetings have been held, not only in every town, but in every village and neighborhood, more numerous and more systematic in their plan of operations than was ever attempted in any other community, or than could have been carried out in the same time in any state of greater territory, and with a population less concentrated in villages than this. More than eleven hundred meetings have been held expressly to discuss topics connected with the public schools, at which more than fifteen hundred addresses have been delivered. One hundred and fifty of these meetings have continued through the day and evening; upward of one hundred, through two evenings and a day; fifty, through two days and three evenings; and twelve, including the Teachers' Institutes, through an entire week. In addition to this class of meetings and addresses, upward of two hundred meetings of teachers and parents have been held for lectures and discussions on improved methods of teaching the studies ordinarily pursued in public schools, and for exhibitions or public examinations of schools, or of a class of pupils in certain studies, such as arithmetic, reading, &c. These meetings have proved highly useful. Besides these various meetings, experienced teachers have been employed to visit particular towns and sections of the state, and converse freely with parents by the way-side and the fire-side, on the condition and improvement of the district school. By these various agencies it is believed that a public meeting has been held within three miles of every home in Rhode Island, except in sections of a few towns where an audience of a dozen people could not be collected in a circuit of three or four miles.

To the interest awakened by these addresses and by the sympathy of numbers swayed by the same voice, and by the same ideas, must be added the more permanent and thoughtful interest cultivated by the reading of books, pamphlets, and tracts on the same topics at home. More than sixteen thousand pamphlets and tracts, each containing at least sixteen pages of educational matter, have been distributed gratuitously through the state; and in one year, not an almanac was sold in Rhode Island without at least sixteen pages of educational reading attached. This statement does not include the official school documents published by the state, nor the Journal of the Institute, nor upward of twelve hundred bound volumes on schools and school systems, and the theory and practice of teaching, which have been purchased by teachers, or which have been added to public or private libraries within the last four years. In addition to the printed information thus disseminated, the columns of the different newspapers published in the state have always been open to original and selected articles on education, and to notices of school meetings."

The author of the Remarks above quoted was obliged, from impaired health, to resign his office of Commissioner of Public Schools, before he could organize these various agencies into a complete and permanent system for the professional training and improvement of the teachers of Rhode Island. His plan contemplated a thoroughly-organized and equipped Normal School, and ultimately two Normal Schools—one to be located in the city of Providence, having a connection, under the auspices of the school committee, with a Public Grammar, Intermediate and Primary School, or Schools of Observation and Practice, and also with Brown University, under a distinct professorship, and with access to libraries, apparatus, and courses of lectures, so far as the same could be made available;—and the other in the country. The Normal School at Providence was to receive two classes of pupils—young men, whose previous studies and talent fitted them for the charge of the most advanced classes in public schools in the cities and villages, and the other for female teachers. The plan of a Normal School in the country, was modeled in some of

its features after the institution of Verhli, at Kruitlingen, in Switzerland of which an account was published in the Journal of the Rhode Island Institute of Instruction, in 1846, and of the Training School at Battersea, in England. In this school the teachers were to support themselves in whole, or in part, or at least the expense of board was to be reduced, after the plan of the Seminary at Mount Holyoke, in Massachusetts. In both institutions, the course of instruction was to embrace the principles of science as applied to the leading industrial pursuits of the people of the state; and in this department of the plan, the co-operation of the "Rhode Island Society for the Encouragement of Domestic Industry," was anticipated. No state in the Union possesses such facilities. As was remarked by the Commissioner, in taking final leave of the Legislature, and the Rhode Island Institute of Instruction, in 1848:

"Her territory is small, and every advance in one town or district, can easily be known, seen and felt in every other. Her wealth is abundant,—more abundant, and more equally distributed, than in any other state. Her population is concentrated in villages, which will admit of the establishment of public schools of the highest grade. The occupations of the people are diverse, and this is at once an element of power and safety. Commerce will give expansion; manufactures and the mechanical arts will give activity, power, invention and skill; and agriculture, the prudence and conservatism which should belong to the intellectual character and habits of a people. Rhode Island has a large city, to which the entire population of the state is brought by business or pleasure every year, and which should impart a higher tone of manners, intelligence and business, than can exist in a state without a capital; and fortunately, Providence has set a noble example to the rest of the state in her educational institutions,—in the provision of her citizens for schools, libraries, and institutions for religion and benevolence."

PROFESSORSHIP IN DIDACTICS IN BROWN UNIVERSITY.

In the reorganization of the course of instruction in Brown University as presented in the Report of President Wayland, on the 19th of July, 1850, provision is made for a course in "Didactics, or the Theory and Practice of Teaching." The following explanation is given in the Report.

"The course in Didactics is designed at present especially for the benefit of teachers of common schools. There will be held two terms a year in this department, of at least two months each. It shall be the duty of the professor of Didactics to review with the class the studies taught in common schools, and then to explain the manner of communicating knowledge to others. The other professors in the University will be expected to deliver to this class such lectures in their several departments as may be desired by the Executive Board."

The course as thus explained, if entrusted to a competent professor, will accomplish much good to a limited number of teachers, who shall bring a suitable preparatory knowledge, and be able to meet the expenses of a residence in Providence. But unless greatly enlarged, and accompanied with opportunities of observation and practice in the public schools of the city, it will fall far short of meeting the wants of the female teachers of the state, and much the larger portion of the male teachers. It is to be hoped that the plan will be so far extended, as to embrace a Normal School under the auspices of the School Committee of Providence, and in connection with a Grammar, Intermediate and Primary School, as Schools of Practice, for female teachers, like that in successful operation in Philadelphia.

Soon after the preceding account and suggestions were published, it was announced that instruction in the Normal Department of Brown University would be given by Prof. S. S. Greene, who had been appointed to the Professorship of Didactics, and at the same time held the office of Superintendent of Public Schools in the city of Providence. Aside from the different branches of the usual academic course of the University, which were open to the normal students, the exercises of the course were purely didactic, consisting of lectures and drill exercises at the lecture-room of the Providence High School, with an aggregate attendance during the winter of 1851-2 of about eighty, mostly ladies from Providence and the surrounding towns.

In the autumn of 1852, several gentlemen in Providence contributed a sum sufficient for defraying the expenses of a room centrally situated, and providing the same with fixtures suitable for the accommodation of a class of normal pupils, who might desire to attend at a moderate charge, for instruction in the methods of teaching common schools. A circular was issued by Prof. Greene, and eighty-five pupils attended a course of instruction given by him and Messrs. William Russell, Dana P. Colburn, and Arthur Sumner. The average attendance from Nov. 1, 1852, to April 18, 1853, was seventy-five. This was the commencement of the

RHODE ISLAND NORMAL SCHOOL.

In the fall of 1853, a second class was formed under the instruction of the same teachers, Messrs. Greene, Sumner, and Colburn, assisted by lectures on Physical Geography by Prof. Guyot. The attendance was about sixty, mostly females. The success of the school during both these sessions was such, that the City Council made an appropriation in March, 1854, for the establishment of a permanent City Normal School, of which Mr. Colburn was appointed Principal, and arrangements were made to open it on the 29th of May following. This plan was, however, abandoned in favor of the State Normal School, which the General Assembly established at its May Session of the same year, on the recommendation of the Commissioner of Common Schools, Hon. E. R. Potter, with an appropriation of \$3,000 a year for its expenses—thereby virtually adopting the private institution, and converting it into the

RHODE ISLAND STATE NORMAL SCHOOL.

From the 29th of May, 1854, till July, 1857, the school was continued at Providence, in the hall of the Second Universalist Society, with Mr. Colburn as Principal, and with an aggregate attendance of 808 pupils, and an average annual attendance of 67. By action of the General Assembly, the school was removed in September, 1857, to Bristol, and the annual appropriation reduced to \$2,500, where it continued under the management of Mr. Colburn until his death on the 15th of December, 1859. In February, 1860, the school was placed under the control of a Board of Trustees elected by the General Assembly, and on the 17th of

May, 1860, Mr. Joshua Kendall, of Meadville, Pa., was elected by the Board to the office of Principal. The Report for January, 1862, shows a registered attendance, during the past year, of 62 pupils, and an aggregate attendance, since the establishment of the institution, of 500, or nearly 63 a year. The school possesses a well-selected library of 2,000 volumes, and a valuable chemical and philosophical apparatus. The appropriation of the State is mainly applied to the pay of the salaries of the teachers, all the other expenses of the school being defrayed by the town of Bristol, which also provides the building for its accommodation. The following Circular sets forth the details of the institution in 1861:

CIRCULAR—1861.

TERMS.—The Terms of this Institution consist of ten weeks each, and will commence as follows:

First Term, on the first Tuesday of May.

Second Term, on Tuesday after the first Wednesday of September.

Third Term, on the fourth Tuesday of November.

Fourth Term, on the second Tuesday of February.

Pupils are received at the commencement of each Term.

CONDITIONS OF MEMBERSHIP.—All applicants must declare, *in writing*, their intention to qualify themselves for teachers in the State; they must present to the Principal a certificate of good moral character, and of such other personal qualifications as ought to be found in every instructor of the young. They must be, if males, at least sixteen, and if females, at least fifteen years of age. They must pass a satisfactory written and oral examination, by the Principal, in Reading, Writing, Spelling, Arithmetic, Geography, and English Grammar; and must remain in the School, at least, one full term. All candidates for admission must be at the school-room on the morning of the day *preceding* that on which the term commences, at 10 o'clock.

COURSE OF STUDY.—The following is the course of study, without regard to the order in which the branches will be pursued, or the length of time devoted to them:

Geography, Physical and Political, with the use of globes and outline maps and map-drawing; Orthography, Phonetic and Etymological Analysis; English Grammar, with Analysis of Sentences; Rhetorical Reading, including Analysis of Language, History of the English Language and Literature, and the critical study of select works; Original Composition and other Rhetorical exercises; Logic; Writing, including Spelling, Paragraphing, Capitalizing, and Punctuation; History of United States, Constitution of United States, Constitution of Rhode Island and School Laws of Rhode Island, General History and Chronology, Natural History, Botany, Zoology, Chemistry and Anatomy; Natural, Mental and Moral Philosophy; Arithmetic; Algebra; Geometry; Trigonometry; Vocal Music; The Art of Teaching, including the history and progress of education, the philosophy of teaching and discipline, as drawn from the nature of the juvenile mind and the application of those principles under the ordinary conditions of our common schools.

The studies of the School will be arranged, as far as possible, to meet the wants of teachers and of those intending to become such, including—

1st. A thorough review of elementary studies.

2d. Those branches of knowledge which may be considered as an expansion of the elementary studies, or collateral to them.

3d. The art of teaching and its modes. Every subject of study and of lecture will be considered with reference to the best methods of teaching it.

Members of the advanced class will give teaching exercises before the whole school, each week, subject to the public criticism of both teachers and pupils; and a series of familiar conversational lectures will be given, each term, on topics connected with the Teacher's Life and Duties.

CLASSES.—The pupils will be arranged according to their attainments, into three classes, designated as Junior, Middle, and Senior.

EXAMINATIONS, ETC.—The School will be visited, each term, by a Visiting Committee of the Board of Trustees, when such examinations will be held as may seem desirable.

If at any time, pupils are in attendance, who, in the judgment of the Trustees, do not promise to be *useful as teachers*, they shall be deemed subject to dismissal.

The School is at all times open to inspection, and school visitors, teachers, and the friends of education generally, in this State, are cordially invited to visit it at their convenience.

LIBRARY.—The Library of the School consists of nineteen hundred volumes of text-books and books of general reference, with maps, charts, and globes.

TUITION.—*Tuition is free* to all those who intend to teach in the Public Schools of Rhode Island; but those intending to teach in other States, or in private schools, are required to pay \$5 a term for tuition.

At the beginning of every term, each pupil pays \$1, to meet incidental expenses, and for the use of the library.

DISCIPLINE.—The discipline of the Institution is committed to the Principal; but the age of the pupils, the objects which bring them to a Normal School, and the spirit of the Institution itself, will, it is believed, dispense with the necessity of a code of rules. The members are expected to exemplify in their own conduct, the order, punctuality and neatness of good scholars, and exhibit in all their relations, Christian courtesy, kindness and fidelity.

DIPLOMAS.—Diplomas will be awarded, at the discretion of the Trustees, to such pupils as shall have satisfactorily sustained themselves at the Institution, for at least three full terms, two of which shall be consecutive.

BOARD.—Board, in private families, can be obtained at \$3 per week, for gentlemen, and \$2.50 for ladies. Boarding places will be secured in advance for those who apply to the Principal, by letter or otherwise. Students desiring to board themselves, can usually secure suitable rooms for the purpose.

MEANS OF COMMUNICATION.—Bristol, R. I., the present location of the School, is easy of access, both by railroad and steamboat; and for beauty and healthfulness is not surpassed by any town in New England.

Students who desire to pass regularly, every week or every day, over the Providence and Bristol Railroad, for the purpose of attending the Normal School, can obtain, through the Principal, season or package tickets at very low rates.

Pupils who desire to leave town for home, or for other places, are expected to confer with the Principal.

BOARD OF INSTRUCTION.

JOSHUA KENDALL, PRINCIPAL.

MISS H. W. GOODWIN, } ASSISTANTS.
MISS ELLEN LUTHER, }

XX. DANA POND COLBURN.

DANA POND COLBURN, the first Principal of the State Normal School of Rhode Island, was born in West Dedham, Massachusetts, September 29, 1823. He was the youngest of a family of fifteen children, all reared after the stern New England type, to subsist by honest toil. His early life was passed on the farm and in the farmhouse of his father, and presents but few incidents to enliven the page of a biography. During this period, however, he laid the foundation of a good English education in the common schools of the town, and began to acquire that reputation for readiness in mathematics for which he afterwards became so eminent. One of his teachers, Rev. Mr. Talbot of South Dedham, whose school he attended at the age of ten and eleven, speaks of his proficiency in arithmetic so early as this, and of the remarkable quickness with which he acquired the first principles of English Grammar. He bears pleasing testimony to the orderly deportment of his promising young pupil, as a boy upon whom he could always depend. Even at that age, when boyish spirits, in which he was by no means deficient, are prone to gain the upper hand, an unusual conscientiousness restrained him from abusing the confidence of his instructors. One of the peculiar advantages of his early life was the enjoyment of the almost constant companionship of his father, the late Isaacus Colburn. The youngest of so large a family, nearly all of whose members were already arrived at maturity and established in life, he was his father's *little Benjamin*, ever at his side, whether in the week-day employments of the farm, or on the quiet walks and drives on Sunday afternoons. To the insight, into a long life's experience, obtained on these occasions in many an earnest conversation and from many a passing word of counsel, must be traced a great part of the sterling practical wisdom which characterized all Mr. Colburn's dealings with men.

But not wholly by external influences were his youthful character and aims moulded. He was a thoughtful boy, and often rose above the common occupations and the common objects around him, and strove to grasp the terms of those problems of infinite purport, which

in a reflecting mind are ever solving and yet never solved. As he stretched himself on a favorite grassy bank in the long summer days, and gazed away into the fathomless heavens, he wonderingly pondered on the mysteries of existence. Why am I fixed *here* in this one spot of earth, rather than afar in boundless space? Why am I living *now* rather than with those countless generations that passed away ages ago? What am I to do *here* and *now*, to prove myself worthy of this grand boon of life? To one whose ruling passion might be said to be conscientiousness, such musings as these could not be barren day-dreams. Ever on the alert to ascertain duty, he was thus stirred to stretch every nerve towards fitting himself to do good in the world in his day and generation. How well he succeeded in this resolve, almost every line of the present sketch will tell, and yet will no doubt leave the best and the noblest untold.

Thus in alternate labor with his father and attendance at school, in boyish sports and manly aspirations, his childhood passed swiftly and pleasantly away, till in his seventeenth year he experienced a severe illness. His constitution, naturally weak, had probably been overtaken by labor, and finally yielded to the pressure. No doubt his ambition to do as much as was expected of lads of his age, led him to exert himself beyond his strength. This disease brought him apparently to the brink of the grave, and in its debilitating effects lingered by him to the day of his death. Who shall say, however, that this visitation was not a blessing in disguise, since to it must be traced that change in his aims which caused him to turn from a life of physical labor, and to aspire to the higher avocations of science and literature?

For a short period his desire for a more liberal education was gratified, and during his eighteenth year he continued his studies in the school of Mr. Adams, a well-known instructor. About this period there occurred a little incident, which he used to relate with pleasure as involving his first attempt at public speaking. In illustration of his impetuosity and his readiness, it may, not inaptly perhaps, be introduced here. A debating-club or *Lyceum* had been formed in the district, and young Colburn had become a member. It was his turn to speak, and he arose with becoming modesty to make his first speech. But before entering upon the theme for discussion, he prefaced his remarks with the usual stereotyped excuses for utter want of preparation, such as, from their constant recurrence among the experts, without any regard whatever to the real facts of the case, he judged to form the only approved opening. Then drawing forth an

elaborate manuscript from his pocket, he was proceeding, unconscious of any incongruity, to read his carefully digested arguments, when the hardly suppressed tittering of his audience burst into uncontrollable laughter. Instantly apprehending the cause of their merriment, he threw the paper on the floor, and untrammelled by memoranda, proceeded to take up one point after another, with increased vivacity, and, we may well believe, with at least equal force. In later years he always spoke with great freedom and fluency.

In the autumn of 1841, Mr. Colburn very ardently desired to go away to school, but was obliged to yield for a time to what may be styled a traditional conviction of the indispensableness of labor. Sacrificing his own fair dreams of intellectual toil and intellectual greatness, he submitted to the urgent desire of his father, with a cheerfulness which can be estimated only by those who have experienced a similar trial. As it was conceded that his strength was not sufficient to warrant his engaging again in the heavy labors of the farm and the forest, he was sent to Lynn to learn boot and shoe making. After remaining there about six months, his occupation failed on account of the dullness of the trade, and he returned home. Dissimilar as was this episode in his life to all his succeeding pursuits, he still often recurred to it without any of that foolish sensitiveness which would have arisen in a weaker mind. Nor was it probably without its use. No doubt the very delay in the attainment of his hopes intensified and directed his aspirations and confirmed his resolves. How hardly is the bow-string held home while the eye sights the arrow, and yet how much surer the aim.

During the last winter of his residence at home, Mr. Colburn attended the school of Joseph Underwood, Jr., and was encouraged by him to fit himself for a teacher and to attend the Normal School at Bridgewater, Massachusetts, whither he went in the early part of the spring of 1843. His previous advantages had been entirely confined to the common district schools of his native town, so that his leaving home at this time may justly be regarded as a turning point in his life. His characteristics at this period are thus summed up by Rev. Mr. Parkhurst of Newton, Mass., then his pastor: "Great mental activity, thirst for useful knowledge, indomitable perseverance, with the high resolve to make the most of himself possible, were marked features of his character. Associated with these, were a kind, cheerful, and hopeful disposition, great urbanity of manners, and an unimpeachable life." Going forth into the world with such noble qualifications, we can not wonder to see him proceeding from success to success, and realizing in many respects the highest objects of his ambition.

He remained at Bridgewater most of the time for nearly three years, and completed the course of study, attaining a distinguished position in his class, especially on account of his proficiency in the higher mathematics. He was a favorite among his fellow-pupils, and formed many ardent friendships. Especially did he learn to love and revere the principal, Mr. Tillinghast, and he ever after attributed his success more to the kindly and powerful influence of this gentleman, than to all other external forces beside. There can be no better expression of his unbounded gratitude to this friend and teacher, than a passage in the preface of the *Arithmetic and Applications*. "To my former teacher, N. Tillinghast, Esq., for many years principal of the State Normal School at Bridgewater, Mass., I am more deeply indebted than to any other, or all others, for the ideas embodied in this work. Many of the processes were learned under his tuition; and the training which laid the foundation for whatever real mathematical knowledge I may possess, was in great measure received from him."

With the close of his normal school career, Mr. Colburn's period of study may be said to have been completed. For, although his education never ceased, in that high sense in which every earnest man is a life-long scholar, he yet scarcely ever afterwards devoted himself especially to study.

Mr. Colburn made his first essay at his chosen profession of school-teaching in the town of Dover, Massachusetts, during the winter of 1844 and 1845. It is unfortunate that very little is remembered in respect of his success at that time, or of the peculiarities of his teaching. Having just attained the manly age of twenty-one, and fresh from the discipline of the Bridgewater school, we can readily believe that he brought to the work a degree of vigor and of hopeful enthusiasm, such as makes an ordinary man's first school his best one, and an extraordinary man's, the type of his best ones.

His second school commenced on the first day of December, 1845, in the *south district* of the town of Sharon, Massachusetts, where he made an impression which nearly a score of years has not been able to remove. The zeal and the energy which characterized his labors in the school-room are still often subjects of remark among the inhabitants of that town, while his affable manners gained for him a lasting place in their affections. His standard as a teacher was eminently high, and yet, such were his modesty and his energy of purpose, that he often visited the members of the committee to receive hints and to devise methods whereby he might the better advance the interests of his school. Says a citizen of that town who remembers him well, "He was a good teacher and a working man."

It is supposed by those who are most intimately acquainted with Mr. Colburn's history, that during the time of his residence at Sharon he began to feel the encouragement that always arises from success, in however humble a sphere, and that there he gained a clearer view of his future career.

In the spring of 1846, he commenced the instruction of a school in the village of East Greenwich, Rhode Island, and brought it to a completely prosperous issue. No better evidence of the satisfactory manner in which he acquitted himself is needed, than the fact that he was immediately engaged to teach a public graded school in the same village during the following winter. As in every other place where he remained long, so there he formed a large number of lasting personal friendships, and always recurred to his year's residence at that delightful sea-side village as one of the brightest periods of his life. But not for its picturesque scenery alone, its bracing air, and its congenial society, did he remember East Greenwich. It was there, he used often to say, that he first broke loose from the traditional methods of teaching, and began to evolve his own rational processes. Forsaking the old beaten path up the *Hill of Knowledge*, he dared to make his own survey of that famous steep, and to lay out a way smoother and freer from those storied roughnesses, that have torn the feet of youthful pilgrims for many a long year. By carefully observing the natural laws of acquisition in the mind of the child, he was able to arrange elementary knowledge in such forms as to be most easily appropriated by him, never fearing that the difficulties still remaining would furnish matter enough for healthful intellectual discipline. Especially did he apply his newly-gained philosophy to the presentation of the first principles of arithmetic, and thus laid the foundation of that beautiful system of instruction which finds its most complete expression in his published mathematical works. Had his educational theories proved far less practical than they are now recognized to be, they would still have deserved our highest admiration for their originality. Nor does it detract from his merit, that, although two years had intervened, this system may be viewed as in a certain degree the natural result of his instruction at Bridgewater. Only in the richest soil does even choice seed yield a hundred-fold.

The last common school instructed by Mr. Colburn was an Intermediate Boys' School at Brookline, Mass., commencing in the spring of 1847, and continuing nearly a year. With his insatiate eagerness for knowledge, his love for his profession, and his manly self-reliance, tempered by the consciousness of his still limited attainments, it is no wonder that here too he gave general satisfaction.

A highly important portion of Mr. Colburn's professional eminence was derived from his rare tact in the instruction and the management of Teachers' Institutes. For the last twelve years of his life he was frequently occupied in this way during his school vacations and at one period, in 1850 and 1851, made it his almost exclusive employment, extending his labors through New England and into some of the Middle and the Western States. On this occupation he always entered with the liveliest enthusiasm.

In Massachusetts, in 1847, he attracted the attention of Mr. Mann, Secretary of the Board of Education, by his excellent manner of teaching the elements of arithmetic. This distinguished educator was so much delighted by both his method and his spirit, that he desired to introduce them into the public schools of the State, and for that purpose invited him to participate in the instruction of the Teachers' Institutes. On the accession, in 1848, of Dr. Sears to the head of the Board of Education, Mr. Colburn was reëngaged as a member of that corps of instructors which numbered Prof. Agassiz, Prof. Greene, and Prof. Russell in its ranks, and under the leadership of the secretary, constituted, without doubt, the most efficient and the most distinguished Institute band ever collected in this country.

It was due, in some measure, to his association with such well-known instructors as these, as well as his own admirable skill in this department, that he attained so wide-spread a reputation, as ever after to receive far more applications for his services in Institutes than he was able to entertain. During the last summer of his life he spent several weeks in the instruction of an Institute in the State of Ohio.

In the Massachusetts Institutes he usually gave a few lessons in orthography, and sometimes in geography, and was successful in both; but his strength lay in his inspiring style of teaching arithmetic. Says one who was intimately associated with him for several years, in reference to his mode of instruction in this department, "The brilliancy with which he illuminated his really philosophical exercises, was quite delightful; his tact and self-possession were great, and he never faltered or pondered." Mr. Colburn was retained in Massachusetts as a regular instructor in Institutes, until he was reluctantly given up, when his permanent duties in the Rhode Island Normal School precluded the possibility of his longer occupying the position. The impetus he thus gave to the study of arithmetic, by presenting his improved methods to the teachers, and by conveying to them a portion of his own vivacity, proved in the highest degree valuable. After he identified himself with the educational interests

of Rhode Island, he threw his whole heart and mind into the work of elevating the standard of the public schools, as well in the occasional meetings of teachers at Institutes, as in the more regular exercises of the Normal School. While his reputation for teaching mathematics caused the conductors of the Institutes uniformly to assign to him that department, he yet sometimes delivered lively lectures on various other topics, such as history, and the discipline of schools. In some cases, not teachers only were his attentive auditors, but also professional accountants and financiers, who regarded his opinions on Interest and kindred subjects with high consideration, and were delighted with his short and simple processes.

Closely allied to his work in Institutes were his familiar and vivacious lectures before various Teachers' Conventions, and occasional meetings of parents in the rural districts of the State. It would be difficult to estimate the amount of healthy life and enlightened thought instilled into many an out-of-the-way farming district, by his winning manner and his calm and conclusive reasoning.

In the educational journals of the day he made an impression by his forcible style of thought, and contributed much to awaken interest in the hearts of teachers. Especially were the columns of the *Rhode Island Schoolmaster* under obligation to his pen for articles on almost every branch of study pursued in common schools, and for several years it numbered him among its choicest special contributors.

There can be no doubt that the great work of Mr. Colburn's life was his instruction in Normal Schools. For ten years he consecrated to this avocation his ripest powers of mind and heart, and by his success in it the value of his brief life must be estimated. The normal school-room was his work-shop, whence emanated his most positive influence on the surrounding world, and where his loss will be longest felt.

He entered upon this branch of instruction as assistant in the Normal School at Bridgewater, in March, 1848, resigning the charge of the school at Brookline, although he was there receiving a higher salary than was offered him in his new position. His respect and affection for his former instructor, Mr. Tillinghast, was so great that he gladly made the sacrifice for the satisfaction of being associated with him, wisely judging that the advantage of his companionship and counsel more than compensated for any merely pecuniary loss. His aim was to obtain the highest possible usefulness as a teacher. By his pupils at Bridgewater he was always regarded with much affection; his genial manners, vivacious conversation, and genuine interest in

their prosperity, rendering him a highly acceptable instructor. In this school, profiting by the example and the precepts of the judicious principal, and drinking in his enthusiastic spirit, he continued for over two years to lay the foundation of his future distinction in this department, until in July, 1850, he removed to Newton to engage in private tuition, and to assist Dr. Sears in the Institutes.

During the spring and the early summer of 1852, he again engaged in normal instruction, as assistant of Prof. Russell, having charge of the divisions of arithmetic and geography in his school at Merrimac, N. H. While there, Mr. Colburn, with Prof. Russell, and Mr. Arthur Sumner, another assistant teacher, entered into an engagement with Prof. Greene, then Superintendent of Public Schools in Providence, to open a normal school in that city. This school, the outgrowth of a normal class held during the preceding winter by Prof. Greene in the hall of the Providence High School, was accordingly commenced in the autumn of 1852, as a private enterprise supported by the fees of pupils and the liberality of citizens interested in education. It continued for five or six months with an average of seventy-five scholars, and attracted the attention of the best educators of the State by the excellence and the novelty of its methods of instruction. The triumphant success of the experiment led to a repetition of the session during the next winter with the same teachers. For the intervening period, the summer of 1853, Mr. Colburn was engaged at the New England Normal Institute, Lancaster, Mass., a school of a most superior standard, conducted by Prof. Russell, with such associates as Prof. Krüsi and Prof. Whitaker. During the second winter of the private Normal School at Providence, the necessity of rendering it a public and permanent institution came to be generally recognized, and in the spring of 1854 it was adopted by the School Committee of the city, and provided for by an appropriation from the city council.

Of this school Mr. Colburn was appointed principal, but before he entered upon his duties another change occurred in its management. By the exertion and advice of the State Commissioner of Public Schools, Hon. Elisha R. Potter, the Assembly was induced to assume the responsibility of its support as a state institution, without any change in its teachers or its organization.

On the 29th day of May, 1854, Mr. Colburn opened the Rhode Island State Normal School, and although several times invited to other fields and tempted by greater emolument, continued in charge of it till the day of his death. He was henceforth its leading spirit. Whatever, therefore, it came to be, is to be attributed, in the main, to his talents

and his perseverance. The same commodious hall and recitation-rooms on Broad street, which had been occupied by the Private School, continued to be occupied by the State School as long as it remained in Providence. In 1857 it was decided by the State Assembly to be expedient to remove it from the city to Bristol, where it still (February, 1862) remains in the pleasant and convenient apartments provided by the town council of that town.

In reviewing Mr. Colburn's methods of instruction and his manner of conducting the school, the most salient points were, perhaps, the cheerfulness and the liveliness which pervaded every exercise. He was himself always in good spirits, teaching because he loved it, and never failed to elicit a corresponding degree of vivacity on the part of his pupils. Many of his exercises, particularly where there was a great class, were like play,—full of joy and laughter; and yet there was hard work done by every student with all this merry face. Question and answer were sent forward and back and through the ranks, so promptly that, out of a large class, nearly every member got a good share of attention, and no one was suffered to wander. Especially sprightly were his exercises in arithmetic. So rapidly were long mental processes performed by scholars who had been a short time under his training, that when the same result was given by the whole class at once, it seemed like magic, and spectators, present for the first time, scarcely believed that the answers had not been previously learned. The agreeable excitement of such exercises tended to bring every power of the mind into play, and to cultivate a readiness and agility of thought, rarely reached even in our best high schools and colleges.

In securing animation, Mr. Colburn was by no means neglectful of thoroughness. When he requested a pupil to explain any process, he never allowed him to omit or slur over a single step, unless one already so familiar as to be easily taken for granted. For each step he required the principle to be stated, and did not let it pass until the scholar perfectly understood it, never allowing an arbitrary rule to take the place of an analysis.

In accordance with the normal theory, he often appointed a member of the class to conduct an exercise under his own eye, and thus to apply practically the didactic principles he had been learning. This was styled either a *teaching-exercise* or an *examination-exercise*. In the former case the class was considered, for the time, as composed of beginners, and the temporary teacher endeavored to present some subject in such a way as would appeal most easily and most naturally to the understanding of a child. In the latter case it was the teach-

er's business to discover what each pupil had acquired either from the previous *teaching-exercise* or from books. At the close, Mr. Colburn used to call for the criticisms of the members of the class, as to the manner and the accuracy of the conductor of the exercise, and himself added such suggestions as would lead him to gain greater self-reliance and to adopt a more affable style of address, a simpler and more exact mode of expression, or a more natural and logical order in presenting facts and principles. Withal in such a genial and kindly spirit did he convey these hints, that even the most delicate sensitiveness was rarely wounded.

Although mathematical science was his chosen department of instruction, he yet especially avoided in the scope of his teaching, an exclusive bias toward what are called *practical studies*. He delighted in promoting a broad culture, and was fond of *general exercises*, where he could throw aside text-books and discuss, with all the members of the school, questions of taste, politics, commerce, and history. In these exercises he would often display an amount of culture and information truly remarkable, in view of the imperfection of his means of education. Sometimes he would discuss a question in Natural Philosophy, and so draw on his pupils by skillful questioning as to make them seem to discover for themselves the principles involved. As far as possible he endeavored to illustrate each point by experiment, or to fix it on the mind by an exhibition of the object to which it applied. At another time he would present the outline of the science of Astronomy, and, by the force of his vivid illustrations, so lift his hearers with him in imagination above our planet, that they could not choose but see all the bodies of the solar system revolving in their order, the earth among the rest. Then taking advantage of this imaginary point of view, he would direct the attention to the various relations that determine the changes of the seasons, the varying temperature of the zones, or eclipses of the sun and the moon, so much more easily grasped from an outside stand-point. Indeed, one of the prime secrets of his success was his great imaginative power and his happy faculty for impressing a lively picture on the imagination of others.

While he particularly delighted in inviting the attention of his pupils to generous researches in the higher fields of science and of literature, he yet never forgot that his main business was to teach *how* to teach the elementary branches in the common schools of the State. It was on account of his keeping this constantly in view, that the Rhode Island School has acquired a reputation for its strictly *normal* character, second to none in America. He was accustomed

to set apart a portion of each term to familiar lectures on the Theory and Practice of Teaching, in which he would discuss the best methods of opening a school for the first time, the manner in which a young teacher should conduct himself in order to win the respect and the confidence of his pupils and their parents, the principles to guide him in the arrangement of classes and the selection of text-books, the necessity of a rigid order of exercises, the most prudent system of discipline, the proper treatment of refractory scholars, and the legal rights and liabilities of a teacher. There can be no doubt that embodied in these lectures was an amount of practical wisdom, founded on enlightened theory, sufficient to form a volume of high value to a young teacher. Nor were his pupils on such occasions mere passive listeners. He always delighted to lead them to the desired results by carefully arranged questions, rather than to attempt to convince them by a dogmatic statement of his own opinion.

He was not ashamed to descend to the discussion of what are commonly considered the simplest matters, such as the most reasonable methods of teaching the alphabet, and the first lessons in reading words and figures, rightly esteeming the mastery of a system of arbitrary characters for the expression of thought the most difficult achievement of the human mind. Help a child well over this barrier to intellectual advancement, and he will help himself over the rest. No torn and blood-stained banner tells of more hard-fought battles than a well-thumbed primer. The dull and neglectful methods of teaching the abecedarians, often adopted on the plea of gaining time for the older scholars, is like launching a ship without lubricating the *ways*, and then oiling the sea. Often would a young lady, who had already gained the reputation of an *experienced teacher*, and could have demonstrated a proposition in geometry or gone through an abstruse discussion in algebra without tripping, utterly fail in giving an exercise, without the aid of a text-book, in teaching the alphabet or the first steps in arithmetic.

In the government of the school, Mr. Colburn almost attained the acme of perfection by not seeming to govern at all. He never issued any arbitrary rules, so often only guides to insubordination, but rather depended on creating a high moral atmosphere in which the scholar found doing right more natural and easy than doing wrong. He never assumed a despotic manner, but strove by kindness and manifest honesty of purpose to win over all to his side. Every one felt that the Principal was earnest and sincere, and thus became earnest and sincere himself. Probably there was never a school where a majority of the scholars were more well-disposed toward the teacher;

yet he did not, in gaining their good-will, sacrifice his dignity and his proper authority. When cases of discipline arose, he managed them with firmness and decision, but never with the slightest hasty feeling. After listening patiently to all extenuating circumstances, he would state his conclusion so reasonably and so kindly, that the offender would almost always anticipate the penalty and acknowledge its justice. So singular was his prudence in such cases, that it is doubtful if he ever had occasion to regret an unwise or an unjust decision. Almost certain is it that no scholar left the school, entertaining permanent ill-will against him.

While his primary aim was always to have a hard-working school, he yet did not fail to diversify labor by such social amenities as would make it more agreeable and attractive. In addition to recreations now and then on a small scale, he every summer arranged some excursion or entertainment, such as a sail down the bay, a clam-bake, or a picnic on the sea-shore, in which all the pupils and many of their friends were invited to participate. At these times his genial spirits reigned supreme, and he attained the height of happiness in ministering to the happiness of others. The most notable of these occasions was the *réunion* held on the removal of the school from Providence to Bristol, at the close of the summer term in 1857. To this festival all the past and present scholars were invited, to listen to addresses from gentlemen of distinction, and to partake of an elegant collation.

Such is an imperfect sketch of the outlines of Mr. Colburn's great work in the Rhode Island Normal School. Who can estimate its results? To do so, one must go out through the length and the breadth of the State, and in a hundred school-houses notice the cheerful, self-reliant faces of the teachers, the vitalized methods of instruction, and the wide-awake exercises which have superseded the old, stereotyped, sleepy routine. It has been the uniform testimony of the successive school commissioners, that in their annual visits they recognize in a moment the presence of a teacher trained by Mr. Colburn, and do not need to inquire further concerning the success of the school. Thousands of children are better taught to-day, for his having taught their teachers how to teach. Who can doubt that he has thus, in the quiet retirement of his school-room, exerted a more wide-spread and positive individual influence, than if as governor of the commonwealth he had sat for years at the head of the senate?

During the last ten years of Mr. Colburn's life, in addition to his regular school duties, he was almost constantly employed in preparing text-books of arithmetic, and succeeded in producing a series almost

as nearly perfect as can be desired. By his original reflections on the most philosophical methods of teaching this science, the results of which are thus given to the public, he has probably done more than any other man in our day to break down the senseless routine which has long obstructed its successful mastery, and to give the study an impetus felt far beyond the circle where his works are actually used. It is not claiming too much to assert that for him it was left to establish the pursuit on a thoroughly rational basis, in respect of the methods of presenting to children the first lessons in counting, adding, and subtracting, by repeating the process in a very large variety of forms; of the logical arrangement of topics; of the entire substitution of principles well explained and illustrated, for arbitrary rules, not only in mental, but also in written arithmetic; and of the uniform omission of answers, with the consequent throwing the pupil on his own resources for assurance of accuracy, as must always be the case in problems arising in real life.

It would have been remarkable if such innovations had not excited opposition and criticism, but he always met them with genial, good-natured equanimity, which resulted from a calm conviction of the correctness of his theories. How well-founded was this confidence, is attested by the rapidity of thought, the analytical grasp, and the practical power attained by the pupils trained under his system. It was, as we have seen, during his residence at East Greenwich, in 1847, that he began to study carefully the natural operation of the child's mind so as to be able to present to it the first principles of arithmetic in the most intelligible and attractive manner. The fruits of this observation were afterwards embodied in the *First Steps in Numbers*, an excellent little work, published in company with Mr. George A. Walton, as co-author. While he was at Newton and Lancaster, he completed the *Decimal System*, and the *Interest and Discount*. In Providence, in 1855, he composed the *Arithmetic and its Applications*, Part IV. of his complete series. During the following year he published the *First Part*, illustrated by very spirited wood-cuts. In 1858, after his removal to Bristol, he prepared the *Common School Arithmetic*, a thoroughly practical and compendious treatise, forming Part III. of his permanent series. During the following year he proceeded to divide and develop into two volumes the *First Part*, which had been found to cover too much ground for one book. One of these, the *Child's Book of Arithmetic*, Part I. in the series, was completed in July. The other, the *Intellectual Arithmetic*, Part II. in the series, on account of the large amount of new matter embodied in it, occupied his attention almost to the close of

his life, the last proof-sheets being returned to the printer but a short time previous to his decease, and the bound volume being never seen by him. It is pleasing to reflect that he was allowed to finish this volume, the last of the series, and thus to complete one great division of the task he had laid out for himself. It is probable that, if his life had been spared a few years, he would have added to his works a geometry, for which he had already collected some materials, and perhaps an algebra. But, as it is, his valuable volumes, already completed, will long remain a monument of his industry, his vigorous intellect, and his singular ingenuity in the application of his chosen science to the wants of the present age.

The circumstances attending the close of Mr. Colburn's earthly career were of the most tragical and affecting character. Never were the joyous breath of hopeful life and the blasting atmosphere of death brought into a closer or a sadder contrast. Prosperous in his profession, honored by his fellow-citizens, and contented with his lot in life, he was just about to attain the consummation of his highest hopes of happiness, by being united in marriage to one whom he tenderly and devotedly loved, and who was in every way worthy of his love, when, on the 15th day of December, 1859, in the noble prime of his manhood, he was snatched away from the world forever. He had been attending to his regular school duties during the morning, and between four and five o'clock started on his usual afternoon ride in a light carriage. Before he had proceeded far, his horse, a young and spirited animal, ceased to be under his control, and broke into a run, as he was approaching an angle in the road. He succeeded in passing the corner safely, but scarcely had he gained the straight road, when he lost his balance, and falling forward, was dragged for several rods over the frozen ground, and finally disengaged most fearfully mangled and quite lifeless. It is impossible to depict the dismay and sadness which pervaded the whole community as the fatal news became known. The public prints of Rhode Island and the adjacent states gave utterance to expressions of the deepest sorrow, and of high honor for his memory; various societies, with which he had been connected, passed resolutions of condolence and respect; and a host of private friends and former pupils flocked together to drop a tear of heartfelt grief upon his bier. A funeral was first held at Bristol, in the church, which within one short week was to have witnessed his bridal. His remains were afterwards removed to South Dedham, and after another funeral, largely attended by his former townsmen and many from abroad, were deposited, on the 19th of December, in a tomb in the village cemetery. Since that time they

have been laid in their last resting-place in the burial-ground at West Dedham, his native town, not far from the spot where he passed the bright, hopeful days of his boyhood, and whither, wherever he wandered, his heart ever fondly turned.

Thus early perished one whose qualities of mind and heart made him admired and loved by all who knew him. He possessed an intellect, which, for acuteness of apprehension and rapidity of action, has been rarely surpassed. He grasped an idea almost intuitively, to return it in a moment in a fresh form with graphic illustrations of his own, reminding one rather of the clear, quick anvil-note, than of the tardy reverberations of the deep-toned bell. He was ready, rather than profound. Not only had he keenness to see, but, what is more important still, restless energy to do,—traits which make up a man who can do almost all he undertakes, and is likely to undertake a great deal.

That frailness of physical constitution, which in another man would have paralyzed every effort, was in him kept under and out-balanced by the undaunted vigor of his manly soul.

But it is for the noble qualities of his heart that his loss will be longest and most deeply deplored. His unusual power of forming ardent friendships was as much the source of the wide-spread sorrow at his death, as was the brilliancy of his intellect, and his eminent success in his profession. He was especially fond of all innocent social enjoyments, and by his affable and conciliatory manner rendered himself on such occasions highly agreeable. His natural affections were remarkably strong, and in his pious care and reverence for his aged and widowed mother, transcended very far the ordinary standard of humanity. With a whole-souled philanthropy, and an unsurpassed freedom from selfishness, he was ever extending his sympathy and his generosity beyond the immediate circle of his relatives, and helping on the young adventurer, or lifting the fallen one from his degradation. How many successful aspirants for worldly honors owe to his helping hand the early steps in their advancement, and how many weary and heavy-laden spirits bless his name for a few drops of comfort in their cups of sorrow and disappointment, can never be known in this world, but are surely recorded on high.

In respect of Mr. Colburn's religious sentiments, it is certain that so far as a pure and correct life and an unequivocal profession of his belief in the great truths of revelation are the tests of indwelling religion, no man is a more thorough and consistent Christian than was he. While it is deeply to be regretted that he never became outwardly connected with the church by the rite of baptism, as he

contemplated, there is yet great consolation in the certain knowledge that he was hindered rather by some intellectual difficulties, than by a single shade of hesitation in separating himself from the world, and enlisting boldly on the side of Christ. It is gratifying also to trace the fruits of grace in his character, in enabling him entirely to conquer his natural impulsiveness of temper, in imparting a conscientiousness which controlled every action of his life, and in bestowing on him a cheerful patience in bearing his life-long bodily sufferings.

XXI. CONNECTICUT.

PUBLIC SCHOOLS AND OTHER EDUCATIONAL INSTITUTIONS.

In the following brief survey of the system of Common Schools and other means of education in operation in Connecticut in 1860, we shall arrange the institutions under the following heads:—

I. ELEMENTARY EDUCATION—Common Schools and institutions designed to aid or coöperate with them.

II. SECONDARY EDUCATION—Academies, and other institutions incorporated, or designed to prepare young persons for college, and to give better instruction in languages and science than the Common School can do.

III. SUPERIOR EDUCATION—Colleges empowered to grant the degrees of Bachelor and Master of Arts and Science.

IV. PROFESSIONAL AND SPECIAL SCHOOLS—Institutions designed to give the details of a particular department of education, or accommodate a special class of pupils.

V. SUPPLEMENTARY EDUCATION—Institutions and agencies designed to supply deficiencies of instruction in individuals or classes, or to carry it forward in certain directions beyond the opportunities afforded in regular schools.

VI. SOCIETIES FOR THE ENCOURAGEMENT AND ADVANCEMENT OF SCIENCE, THE ARTS, AND EDUCATION.

VII. CATALOGUE OF DOCUMENTS RELATING TO THE EDUCATIONAL INSTITUTIONS OF CONNECTICUT.

I. ELEMENTARY EDUCATION.

A. PUBLIC OR COMMON SCHOOLS.

THE whole number of inhabitants in the state, according to the United States Census of 1860, is 461,838. The whole number of children between four and sixteen years of age, according to the return of authorized school officers, is 108,389—and between five and twenty years, according to the Census, 125,000.

The state has an area of 4,750 square miles, and is divided into eight counties, composed of seven incorporated cities, and one hundred and sixty-two towns, seven of the towns including each, a city within the town limits. The cities and towns are clothed with the fullest municipal powers, and are divided for school purposes into 1,624 school districts. Towns and districts are the only two divisions recognized in the organization and administration of public schools.

I. AUTHORITY AND DUTY TO EDUCATE CHILDREN AND ESTABLISH SCHOOLS.

The state does not claim for itself any exclusive control over schools or education, but aims to enable local communities and parents to act efficiently in the matter, and to protect itself from their neglect.

The fullest liberty of instruction is enjoyed by teachers and parents, who can establish schools of any grade without let or hindrance, but such schools unless established, taught and inspected according to the laws regulating common schools, and unless open practically to children of every religious connection, can not receive any portion of the avails of taxation, or funds provided by the state.

The state relies on its ample provision for at least one public school in every neighborhood, made at once cheap and good by its own pecuniary aid and authorized inspection, for at least a standard of elementary education below which private schools can not exist.

Duties of Parents, Guardians and Employers of Children.

All parents, and those who have the care of children must bring them up in some honest and lawful calling or employment, and instruct them, or cause them to be instructed, in reading, writing, English grammar, geography, and the elements of arithmetic. If any heads of families neglect the education of the children under their care, they are to be admonished by the selectmen, and if still neglectful, the selectmen are to remove the children and bind them out to some proper master that they may be properly educated and brought up in some lawful calling or employment.

No child under the age of fifteen years must be employed to labor in any manufacturing establishment, or in any other business in this state, unless he has attended some public or private day school for at least three months of the twelve next preceding any and every year in which such child shall be so employed; or at labor a greater length of time than ten hours in a day.

Any owner, agent, or superintendent who shall employ any child contrary to the provisions of this section, is to pay a penalty of twenty-five dollars to the treasurer of the state.

Power and Duties of Towns.

Towns must provide for the support of common schools within their respective limits; must hold in trust all funds, buildings, and property formerly held for school purposes by school societies; must appoint a board of school visitors, consisting of three, six, or nine persons; when holding permanent funds, must appoint a school fund treasurer; must raise by tax for schools at least three-tenths of a mill on the dollar of taxable property.

Towns have power to establish and maintain common schools of different grades; to purchase, receive, hold, and convey property for school purposes; to build and repair school-houses; to lay taxes, make contracts, and adopt regulations and measures for the education of the children of the town.

Towns have also power to form, alter, and dissolve school districts within their limits; and by these districts the common schools are generally established, except in the case of the Public High School.

Powers and Duties of School Districts.

School districts must hold an annual meeting in the month of August or September, for the choice of officers, and for the transaction of any other business relating to schools; must choose by ballot at the annual meeting a district committee of not more than three persons; a clerk, treasurer, and collector; must when erecting new school-houses, build the same according to a plan proposed by the school visitors; must be supplied with a school-house and out-buildings, satisfactory to the board of visitors, and maintain a school for at least six months in the year, or not be entitled to receive any money from the school fund of the state.

School districts have power to purchase, receive, hold, and convey property for school purposes; to provide school-houses; to establish schools of different grades; to purchase maps, globes, and other school apparatus; to establish and maintain school libraries; to employ teachers; to lay taxes, and to make all lawful agreements and regulations not inconsistent with the regulations of the town to which the district belongs. School districts may also take any land necessary for sites of school-houses or for out-buildings and other accommodations, by paying to the owner a just compensation, to be determined by a committee appointed by the superior court. They may also fix, or authorize the district committee to fix a rate of tuition not exceeding two dollars per term in ordinary schools, and four dollars per term of twelve weeks in high schools.

II. OFFICERS CHARGED WITH THE ADMINISTRATION OF THE SYSTEM.

Number and Designation.

The district officers are a district committee consisting of not more than three persons, a clerk, treasurer, and collector, chosen annually. The town officers, are the board of visitors, consisting of three, six, or nine persons, who shall hold office for three years, and are chosen one-third, annually, and a school fund treasurer. The selectmen and town collector have also certain duties relating to schools.

There are seven districts in the state incorporated by special acts of the legislature which have a board of education in each, this board

performing all the duties of the district committee and of the board of visitors. The state officers are Commissioner of the School Fund, and the Superintendent of Common Schools, and a clerk in each office.

Duties. It is the duty of the District Committee to call district meetings; to employ teachers, to provide school-rooms and furnish the same with fuel properly prepared, to supply poor scholars with school books at the expense of the district; to visit the schools twice at least during each season of schooling, to suspend during pleasure, or expel from school, all pupils found guilty of incorrigibly bad conduct, and to give such information and assistance to the school visitors as they may require.

The district committee must also in the month of January, return to the board of school visitors of the town the names of all persons in the district between the ages of four and sixteen years of age, and the names of their parents, guardians, and employers; and on or before the fifteenth of September, must make to the school visitors a full report of the schools under their supervision. The district clerk, treasurer, and collector, have the usual work of these offices, and the clerk in the absence of a district committee, may perform certain of his duties.

It is the duty of the School Visitors to examine teachers and grant certificates; to visit the schools of the town twice at least during each season of schooling; to prescribe rules and regulations for the management, studies, books, classification, and discipline of the schools; to approve of plans for new school-houses; to make return of number of children in the town, to the controller; to draw all orders on the town treasurer, or school fund treasurer, for moneys due the common schools, to make a full annual report to the superintendent of common schools, and also to the town, of the condition of common schools, and certify to the controller such schools as are kept according to law. The school visitors have also the care of town high schools, when the town does not appoint a high school committee, and are authorized to appoint district officers for all vacancies existing after the time of the annual meeting of districts.

Any Board of School Visitors, or any Board of Education of an incorporated district can appoint a committee consisting of one or two persons to exercise all the powers, and perform all the duties of the board, subject to their rules and regulations. Whenever any town has a high school, it can appoint a committee to have charge of the same, or permits its affairs to be managed by the board of visitors.

The Selectmen of each town have the care and management of any

property or funds appertaining to schools and belonging to the town; they must settle and describe the boundary lines of school districts, designate the time, place, and object of holding the first meeting in any new district; inspect the conduct of heads of families, and if they find any who neglect the education of their children, they must admonish them, and if they continue to be negligent, whereby the children grow rude, stubborn, and unruly, they shall take such children from their parents and place them where they may be properly educated.

The Commissioner of the School Fund has the care of all property belonging to said fund; and he must cause the net amount of interest annually received, to be distributed for the benefit of the public or common schools according to law.

The Superintendent of Common Schools must exercise a general supervision over the schools of the state, must collect information from school visitors, and submit an annual report to the General Assembly, containing a statement of the condition of common schools of the state, plans and suggestions for the improvement and better organization of the common school system, and all such matters relating to his office, and to the interests of education, as he shall deem it expedient to communicate. He is authorized and directed to hold, annually, a Teachers' Institute in each county of the state, and to employ lecturers, &c.

Compensation.

The Acting School Visitors receive from the town treasury one dollar and twenty-five cents per day for the time spent in the duties of their office. The commissioner of the school fund receives twelve hundred and fifty dollars per year and expenses of office, clerk hire and traveling expenses from the income of the school fund. The superintendent of common schools receives three dollars per day and traveling expenses and clerk hire, paid from the civil list funds of the state.

III. FUNDS AND TAXATION FOR THE SUPPORT OF SCHOOLS.

The fund called the School Fund is a perpetual fund amounting to \$2,050,460.49, the income of which must be inviolably appropriated to the support and encouragement of public or common schools throughout the state. The income is \$137,305, which is divided to the towns in the state in proportion to the number of children in each, between the ages of four and sixteen. The income from this fund must be appropriated exclusively in the payment of the services of teachers.

The Town Deposit Fund amounts to \$763,661.83, and is divided among the different towns of the state, and by them loaned or in-

vested. It yields an annual revenue of \$45,820, all of which is now appropriated for the support and encouragement of common schools.

Each town is also required to raise by taxation, annually, a sum, not less than three-tenths of a mill on a dollar, to be paid into the town treasury for the benefit of common schools. This tax amounts to \$72,350.

The income from endowments or local funds amounts to about \$19,000 annually.

Towns and districts raise by voluntary tax about \$50,000 annually, and by rate bills or tuition \$40,000, making the whole amount of funds annually expended for school expenses, \$364,500. There is also raised by tax for building and repairing school-houses, about \$85,000.

IV. INTERNAL ORGANIZATION AND CONDITION OF THE COMMON SCHOOLS.

The internal economy of the common school, as to structure, furniture and outfit of school-room, classification of scholars, sessions in the day and year, studies, books and apparatus, methods of teaching and discipline, is left with the town visitors, subject to these general provisions—applicable to every town—that every school to be entitled to its distributive share of the public money, either from funds or taxation, must be taught by a teacher, found qualified by examination as to moral character, literary attainments, and ability to teach, especially reading, writing, arithmetic, grammar, geography, and history; in a school room approved by the town committee; must be open at all times to inspection to parents and school officers, and be actually inspected twice each session by the town committee who must report their own doings and the condition of all the schools of the town annually, and oftener if required to the state superintendent. To enable young men and women to qualify themselves for this certificate examination and meet the requisitions of the committee and of parents, the state provides a special school for their teaching and training, at New Britain, and a series of annual conferences and lectures, of one week's duration, in each county, and aids in the circulation of a periodical devoted to the discussion of improved methods, published and edited by the teachers in their associated capacity.

School-houses.

These are provided in every district, and 1,115 are returned to the superintendent in 1861, as in good condition; those recently erected, after plans approved by the town committee, have spacious grounds and are large, attractive, healthy and convenient.

Gradations of Schools.

In one hundred and fifty districts, each numbering over one

hundred persons between the ages of four and sixteen—including all the cities, boroughs and manufacturing districts—the pupils are distributed into at least two schools, or departments, according to their attainments. In the larger districts the gradation extends to three or four schools. In five of the cities the series of public schools is crowned by a Public High School, opened to the oldest and best scholars without reference to their locality.

Attendance.

The attendance on the public schools for some portion of the year amounts to about one in five of the population, but as this attendance is not regular and punctual on the part of many pupils both in the country and city districts, the results are not as favorable as that ratio would otherwise warrant, and the evils of the contrary practice are serious and manifold.

Sessions.

The school year must consist of at least six months, and in most of the districts it is divided into summer and winter sessions. In every district there is a public school in the summer, which is generally taught by a female teacher, and in all but one hundred there is both a summer and winter session. In the cities, villages, and central districts, the schools are taught throughout the year. The day is usually divided into two sessions, from 9 to 12 A. M., and from 2 to 5 P. M.; in the winter, in country districts, the afternoon session begins at one and ends at four o'clock, or from 1½ to 4½ o'clock.

Course of Instruction.

There is no course of instruction established by law for all of the common schools of the state; each town, or rather, each district committee or teacher legislates for its own school. The order of studies pursued, depends on the teacher, subject to the occasional, and often arbitrary and ill-advised interference of the district or town committee—but occasionally to the wise and persistent action of the board of visitors, or acting visitor. In the country districts there is a sort of traditional order of studies, and practically every child who attends the common school during the school-attending period of his youth, acquires a passable knowledge of the spelling, reading, and writing of the English language, and the practical operations of arithmetic, and the elements of geography and history—an amount of attainment and mental discipline which might be largely increased by the immediate and utter abolition of school districts, the systematic classification of the children of a town into schools of different grades, from the Primary to the High School, as now prevails in the city districts, and the universal and permanent employment of

female teachers in the primary and intermediate schools, and as assistants in the higher departments, and one or more male teachers of the best stamp. The Public High School, instead of being the privilege of the youth of five or six towns, would then become the educational property of every town, and with its permanent establishment would disappear the misnamed and unendowed academy, and transient, though often excellent, select school—the growth of some enterprising teacher or of a few parents who wish to secure better opportunities of education than the unclassified district school can furnish.

V. INSTITUTIONS AND AGENCIES IN AID OF COMMON SCHOOLS.

State Normal School.

The State Normal School was established in 1849, and has for its object the training of teachers in the best methods of teaching and conducting common schools. Its concerns are managed by a board of eight trustees, who direct in the application of funds, have the appointment of teachers, and prescribe the studies, exercises, and rules of the school. The number of pupils must not exceed two hundred and twenty. They are admitted upon certificate and recommendation from the board of visitors of each town, and are entitled to tuition free. The course of instruction occupies three years. With the normal school is connected a model, or experimental school of more than five hundred pupils. Cost to the state annually \$5,000.

Teachers' Institutes.

A Teachers' Institute is held annually in each county of the state. The sum of one hundred and twenty dollars is paid from the state treasury to defray the expenses of instruction and incidental charges.

The State Teachers' Association and Common School Journal.

A copy of "*The Connecticut Common School Journal*," published by the State Teachers' Association, is by law sent to the Board of School Visitors of every town.

School Libraries and Apparatus.

The treasurer of the state, upon the order of the superintendent of common schools, is directed to pay ten dollars to every district which shall raise a like sum for the same purpose, to establish a school library, and a further sum of five dollars annually, upon a like order to the districts that shall raise a like sum for such year. The books for such libraries must be approved by the board of visitors. Five hundred and seventy districts have established school libraries.

Five hundred and fifty-four districts are supplied with Holbrook's School Apparatus, (towards the cost of which the state has paid about one half,) and most of the High Schools with philosophical and chemical apparatus. Eight hundred districts have outline maps.

XXII. MILITARY SCHOOLS AND EDUCATION.

AN account of the Military and Naval Schools of different countries, with special reference to the extension and improvement, among ourselves, of similar institutions and agencies, both national and state, for the special training of officers and men for the exigencies of war, was promised by the Editor in his original announcement of "*The American Journal and Library of Education*." Believing that the best preparation for professional and official service of any kind, either of peace or war, is to be made in the thorough culture of all manly qualities, and that all special schools should rest on the basis, and rise naturally out of a general system of education for the whole community, we devoted our first efforts to the fullest exposition of the best principles and methods of elementary instruction, and to improvements in the organization, teaching, and discipline of schools, of different grades, but all designed to give a proportionate culture of all the faculties. We have from time to time introduced the subject of Scientific Schools—or of institutions in which the principles of mathematics, mechanics, physics, and chemistry are thoroughly mastered, and their applications to the more common as well as higher arts of construction, machinery, manufactures, and agriculture, are experimentally taught. In this kind of instruction must we look for the special training of our engineers, both civil and military; and schools of this kind established in every state, should turn out every year a certain number of candidates of suitable age to compete freely in open examinations for admission to a great National School, like the Polytechnic at Paris, or the purely scientific course of the Military Academy at West Point, and then after two years of severe study, and having been found qualified by repeated examinations, semi-annual and final, by a board composed, not of honorary visitors, but of experts in each science, should pass to schools of application or training for the special service for which they have a natural aptitude and particular preparation.

The terrible realities of our present situation as a people—the fact that within a period of twelve months a million of able bodied men have been summoned to arms from the peaceful occupations of the office, the shop, and the field, and are now in hostile array, or in actual conflict, within the limits of the United States, and the no less alarming aspect of the future, arising not only from the delicate position of our own relations with foreign governments, but from the armed interference of the great Military Powers of Europe in the internal affairs of a neighboring republic, have brought up the subject of MILITARY SCHOOLS, AND MILITARY EDUCATION, for consideration and action with an urgency which admits of no delay. Something must and will be done at once. And in reply to numerous letters for information and suggestions, and to enable those who are urging the National, State or Municipal authorities to provide additional facilities for military instruction, or who may propose to establish schools, or engraft on existing schools exercises for this purpose,—to profit by the experience of our own and other countries, in the work of training officers and men for the ART OF WAR, we shall bring together into a single volume, "*Papers on Military Education*," which it was our intention to publish in successive numbers of the NEW SERIES of the "*American Journal of Education*."

This volume, as will be seen by the Contents, presents a most comprehensive survey of the Institutions and Courses of Instruction, which the chief nations of Europe have matured from their own experience, and the study of each other's improvements, to perfect their officers for every department of military and naval service which the exigences of modern warfare require, and at the same time, furnishes valuable hints for the final organization of our entire military establishments, both national and state.

We shall publish in the Part devoted to the United States, an account of the Military Academy at West Point, the Naval Academy at Newport, and other Institutions and Agencies,—State, Associated, and Individual, for Military instruction, now in existence in this country, together with several communications and suggestions which we have received in advocacy of Military Drill and Gymnastic exercises in Schools. We do not object to a moderate amount of this Drill and these exercises, properly regulated as to time and amount, and given by competent teachers. There is much of great practical value in the military element, in respect both to physical training, and moral and mental discipline. But we do not believe in the physical degeneracy, or the lack of military aptitude and spirit of the American people—at least to the extent asserted to exist by many writers on the subject. And we do not believe that any amount of juvenile military drill, any organization of cadet-corps, any amount of rifle or musket practice, or target shooting, valuable as these are, will be an adequate substitute for the severe scientific study, or the special training which a well organized system of military institutions provides for the training of officers both for the army and navy.

Our old and abiding reliance for industrial progress, social well being, internal peace, and security from foreign aggression rests on:—

I. The better Elementary education of the whole people—through better homes and better schools—through homes, such as Christianity establishes and recognizes, and schools, common because cheap enough for the poorest, and good enough for the best,—made better by a more intelligent public conviction of their necessity, and a more general knowledge among adults of the most direct modes of effecting their improvement, and by the joint action of more intelligent parents, better qualified teachers, and more faithful school officers. This first great point must be secured by the more vigorous prosecution of all the agencies and measures now employed for the advancement of public schools, and a more general appreciation of the enormous amount of stolid ignorance and half education, or mis-education which now prevails, even in states where the most attention has been paid to popular education.

II. The establishment of a System of Public High Schools in every state—far more complete than exists at this time, based on the system of Elementary Schools, into which candidates shall gain admission only after having been found qualified in certain studies by an open examination. The studies of this class of schools should be preparatory both in literature and science for what is now the College Course, and for what is now also the requirements in mathematics in the Second Year's Course at the Military Academy at West Point.

III. A system of Special Schools, either in connection with existing Colleges, or on an independent basis, in which the principles of science shall be taught with special reference to their applications to the Arts of Peace and War. Foremost in this class should stand a National School of Science, organized and conducted on the plan of the Polytechnic School of France, and preparatory to Special Military and Naval Schools.

IV. The Appointment to vacancies, in all higher Public Schools, either among teachers or pupils, and in all departments of the Public Service by Open Competitive Examination. To a diffusion of a knowledge of what has been done, is doing, or is proposed to be done in reference to these great points, the *New Series* of "*The American Journal of Education*," will be devoted.

MILITARY EDUCATION; An account of Institutions for Military Education in France, Prussia, Austria, Russia, Sardinia, Sweden, Switzerland, England, and the United States. In a Series of Papers prepared for the "*American Journal of Education*." Edited by HENRY BARNARD, LL. D. Philadelphia: J. B. Lipincott & Co. 1862. PART ONE, FRANCE and PRUSSIA. 400 pages. Price \$2.50.

CONTENTS.

	PAGE.
INTRODUCTION,	3
MILITARY SCHOOLS AND MILITARY EDUCATION,	5
I. FRANCE.	
OUTLINE OF MILITARY SYSTEM,	9
System of Military Instruction,	10
I. Polytechnic School at Paris,	11
1. Subject and Methods of Instruction prescribed for Admission,	13
2. Modifications of Scientific Course in <i>Lycées</i> and other Preparatory Schools in reference to,	49
3. History, Management, Studies, Examinations,	55
4. Public Services, Legal and Military, provided for by,	88
5. Programmes of Lectures and Courses of Instruction,	91
II. The Artillery and Engineer School of Application at Metz,	133
III. The Regimental Schools of Practice for Artillery and Engineers,	231
IV. The Infantry and Cavalry School at St. Cyr,	235
V. The Cavalry School of Practice at Saumur,	241
VI. The Staff School at Paris,	245
VII. The Military Orphan School at La Fleche,	257
VIII. The School of Musketry at Vincennes,	259
IX. The Military and Naval Schools of Medicine and Pharmacy,	261
X. The Naval School at Brest,	263
XI. The Military Gymnastic School at Vincennes,	265
Remarks on French Military Education,	271
II. PRUSSIA.	
OUTLINE OF MILITARY SYSTEM AND MILITARY EDUCATION,	275
I. Outline of Military System,	281
II. Historical View of Military Education,	284
III. Present System of Military Education and Promotion,	293
IV. Examinations; General and Professional for a Commission,	297
1. Preliminary or Ensign's Examinations,	297
2. Officers' Examination,	303
V. Military Schools preparatory to the Officers' Examination,	310
1. The Cadet Schools, or Cadet Houses,	310
Junior Cadet House,	312
Senior Cadet House,	312
2. The Division Schools,	331
3. The United Artillery and Engineers' School,	325
VI. The School for Staff Officers at Berlin,	330
VII. Elementary Military Schools for Non-commissioned Officers,	329
1. Military Orphan Houses,	339
Orphan House at Potsdam,	340
Orphan House at Annaburg,	345
2. The School Division or Non-commissioned Officers' School,	348
3. Regimental Schools,	350
4. The Noble-School at Liegnitz,	350
VIII. Remarks on the System of Military Education in Prussia,	351
APPENDIX,	351
The Artillery and Engineer School at Berlin,	353

THE POLYTECHNIC SCHOOL OF FRANCE: Its History, Conditions of Admission, Management, Subjects and Methods of Instruction, and Discipline. 130 pages. Philadelphia: J. B. LIPPINCOTT & Co. Price, \$1.00.

CONTENTS.

	Page.
INTRODUCTION.—SPECIAL SCHOOLS OF SCIENCE IN FRANCE.....	5
POLYTECHNIC SCHOOL AT PARIS.....	13
SUBJECTS OF INSTRUCTION AS PRESCRIBED FOR ADMISSION IN 1850.....	13
1. Arithmetic.....	14
2. Geometry.....	21
3. Algebra.....	31
4. Trigonometry.....	38
5. Analytical Geometry.....	41
6. Descriptive Geometry.....	43
7. Other Requirements.....	46
PREPARATORY COURSE IN THE LYCEES.....	49
HISTORY, MANAGEMENT, CONDITIONS OF ADMISSION, COURSE OF STUDY,	
EXAMINATIONAL SYSTEM, AND RESULTS.....	55
I. FOUNDATION AND HISTORY.....	55
Out growth of the Necessities of the Public Service in 1794.....	56
High Scientific Ability of its first Teachers.....	58
Peculiar Method of Scientific Teaching.....	59
Characteristic features of the <i>Répétitorial</i> System.....	59
The Casernement, or Barrack Residence of the Pupils.....	60
Permanent Organization in 1809.....	60
Commission of 1850.....	62
II. OUTLINE OF THE PLAN, OBJECTS, AND MANAGEMENT.....	63
Public Services provided for in its General Scientific Course.....	63
Admission by Competition in an Open Examination.....	63
Annual Charge for Board and Instruction.....	64
Exhibitions, (or <i>bourses</i> , <i>demi-bourses</i>), and Outfits (<i>trousseaux</i>).....	64
Length of Course of Study.....	64
Number of Professors and Teachers, besides its Military Staff.....	64
Military Establishment.....	65
Civil Establishment.....	65
General Control and Supervision.....	65
1. Board of Administration.....	65
2. Board of Discipline.....	65
3. Board of Instruction.....	65
4. Board of Improvement.....	66
III. CONDITIONS AND EXAMINATIONS FOR ADMISSION.....	66
Who may be Candidates for Admission.....	66
Subjects of Entrance Examination.....	66
Preliminary Examination.....	67
Written Examination.....	67
Oral Examination.....	68
Scale of Merit, and Latitude in Amount of Credit given.....	68
Reports of Examiners to Minister of War.....	69
Co-efficients of Influence, varying with the Study and Mode of Examination.....	69
Decision of Jury on all the Documents of each Candidate.....	70
Final Action of the Minister of War.....	70
IV. SCHOOL BUILDINGS, COURSE AND METHOD OF STUDY.....	70
Situation, Number, and Purposes of Buildings.....	70
Daily Routine of Exercises.....	72
Method of Teaching and Study.....	73
Professorial and <i>Répétitorial</i>	74
Interrogations, <i>Général</i>	74
" <i>Particulières</i> by the <i>Répétiteurs</i>	74
One <i>Répétiteur</i> to every eight Pupils.....	74
System of Credits for every Lecture, every Interrogation, and Exercise.....	75

	Page.
Final Admission to Public Service, depends on daily and hourly fidelity,.....	75
Division of First Year's Work into three portions,.....	76
First portion—Analysis and Descriptive Geometry,.....	76
Second " Mechanics, Geodesy, Physics, &c.,.....	76
Third " General Private Study,.....	76
Number and Subjects of Lectures in Second Course,.....	78
V. EXAMINATIONAL SYSTEM,.....	78
Ordinary Examinations,.....	78
1. By Professors on their own Lectures, both Written and Oral,.....	78
2. By Examiners on the Manipulations of the Pupils,.....	78
3. By Répétiteurs every ten or fourteen days,.....	78
4. By Professors and Répétiteurs at the close of each Course,.....	79
First Annual Examination,.....	79
Table—Co-efficient of Influence in Second Division of First Year's Course,.....	79
Specimen of Credits gained by one Student in First Year's Course,.....	80
Persons excluded from the Second Year's Course,.....	81
Second Annual or Great Final Examination,.....	81
Conducted by the same Examiners as the First,.....	81
Oral, and extends over the whole Two Years' Course,.....	81
Results based on each Day's Study's, Year's, and Examination's results,.....	82
Tables—Co-efficients of Influence in Final Classification, &c.,.....	82
Order in which the Public Services are Selected,.....	83
VI. GENERAL REMARKS ON CHARACTER AND RESULTS OF THE POLYTECHNIC SCHOOL,.....	84
APPENDIX,.....	86
PUBLIC SERVICES BESIDE THE ARMY SUPPLIED BY THIS SCHOOL,.....	86
1. Gunpowder and Saltpetre,.....	86
2. Navy,.....	88
3. Marine Artillery and Foundries,.....	88
4. Naval Architects. School of Application at L'Orient,.....	88
5. Hydrographers,.....	88
6. Roads and Bridges. School of Application at Paris,.....	89
7. Mining Engineers. School of Mines at Paris and St. Etienne,.....	89
8. Tobacco Department,.....	90
9. Telegraphs,.....	90
PROGRAMMES OF INTERNAL INSTRUCTION DURING THE TWO YEARS OF STUDY,.....	91
1. Analysis,.....	91
First Year—Calculus, Differential,.....	91
Calculus, Integral,.....	93
Second Year—Calculus, Integral, (continuation,).....	94
2. Descriptive Geometry and Stereotomy,.....	97
First Year—Descriptive Geometry, Geometrical Drawing,.....	97
Second Year—Stereotomy: Wood-work,.....	103
Masonry,.....	103
3. Mechanics and Machines,.....	104
First Year—Kinematics,.....	105
Equilibrium of Forces,.....	105
Second Year—Dynamics,.....	112
Hydrostatics,.....	115
Hydraulics,.....	115
Machines in Motion,.....	116
4. Physics,.....	116
First Year—General Properties of Bodies, Hydrostatics, Hydrodynamics,.....	117
Heat,.....	119
Statical Electricity,.....	123
Second Year—Dynamical Electricity,.....	124
Acoustics,.....	125
Optics,.....	126
5. Manipulations in Physics,.....	129
First and Second Year,.....	130
Distribution of Time,.....	131

XXIII. EDUCATIONAL MOVEMENTS.

DR. DIO LEWIS' GYMNASIIC AND HEALTH MOVEMENTS.

No man in our time in the department of physical training has made "his mark" so palpably and so persistently as Dr. Dio Lewis. His talks, and "demonstrations" at the meetings of the American Institute of Instruction, the sessions of his Normal Institute for Physical Education at Boston, his "*New Gymnastics for Ladies, Gentlemen, and Children*," his *Spirometer*, a few minutes with which, President Felton testifies, makes his respiration freer for the whole day—his Clubs, Wooden Dumb Bells, Sand and Bean Bags, Marvelous Rings and Blow-Gun—and that Iron Crown much easier to win and wear than its prototype of Lombardy and his own imperturbable good nature, and inexhaustible enthusiasm, and the faith "which removes mountains"—all have brought up the subject of physical training into the school and the home, beyond anything we expected to see in our day. We bid him God-speed, and had hoped to commence with this number a series of papers by him on the subject, profusely illustrated with cuts, which he has got up to make palpable his instructions in the use of his implements of health and strength. While we advocate PLAY, PLAY, PLAY, as nature prompts, and kittens illustrate, as the best gymnastics for children, and STUDY, WORK and SPORT, judiciously alternated as the sure way of consolidating the constitution of youth, and fore-ordaining a manhood of prolonged strength and usefulness, still we have no doubt for exceptional cases, for girls who are never allowed to play in the old fashioned ways, for boys and girls whose parents have neglected to notice and correct every incipient bad habit of posture, and to look after the diet, dress, pastimes, and sports as of high concern—for pupils of all ages and in every grade of school who can not and will not play, or work moderately—and for all old and young, the reading of Dr. Lewis' *Gymnastic Monthly*, and the home and school practice of his system of Health movements, will be highly beneficial.

OBJECT TEACHING.

Although Object Teaching ought not to be a new thing to teachers and educators who have read at all in the history and methods of education, from the *Orbis Sensualium Pictus* of Comenius in 1658, and the same work translated into English by Hoole (which went through fifty editions,) down to what was written and spoken on the subject directly and indirectly within the last thirty years—we are rejoiced to notice the appearance of such works as Calkin's on "*Object Lessons*," published by Harper & Brothers,—and the promise of a similar work by Mr. Welsh, Principal of the Michigan State Normal School, as well as of an account of the recent examination at Oswego, of the class-exercises of pupils professedly taught on Pestalozzian principles and the Methods of the Home and Colonial Infant and Juvenile Model Schools. Mr. Sheldon has devoted himself with great good judgment and energy to the work not only of introducing these methods into the Public Schools of Oswego, but of getting them recognized by practical educators as the true and best methods of Primary Instruction. Through his efforts a "*Training School for Primary Teachers, on Pestalozzian Principles*," has been opened at Oswego. The next term will commence on the 17th of April next.

CHAMBERS'S ENCYCLOPEDIA: A Dictionary of Universal Knowledge for the People, illustrated. Philadelphia: J. B. Lippincott & Co.

We have consulted with much care and very great satisfaction three volumes of this latest "*Dictionary of Useful and Popular Knowledge*"—from A to Elements. Each volume contains over 800 pages, in clear though small type, and with numerous Maps and illustrations. We miss some names and topics interesting to American readers, but with that exception, the articles embrace the widest and latest sweep of knowledge, and the maps and other illustrations which are a recent improvement in dictionaries, make the articles though brief, full of matter, and for all purposes of reference, highly satisfactory. We should like to see two new features—more justice to American topics, and reference to the best books which treat fully of each great topic. This is what a certain class of readers particularly need. P. S. We are glad to learn that in all the subsequent volumes the American department will be more particularly looked after by competent writers.

THE WORKS OF THOMAS HOOD. Edited by EPES SARGENT. New York: G. P. Putnam. 1862.

This tastefully printed and bound, as well as carefully edited edition of Hood's "*Works*," will be prized by all who would relieve the pressure of severely pursued professional studies and duties by a good natured laugh at the follies of the world, including the extravagances and shortcomings of his own special pursuit. We have enjoyed heartily Hood's caricature of the "*Irish Schoolmaster*," which we do not find in the volumes before us, and the "*Schoolmistress Abroad*," in which the defects of English Female Education are broadly, but good-naturedly exposed.

A PRIMARY GEOGRAPHY ON THE BASIS OF THE OBJECT METHOD OF INSTRUCTION. By FORDYCE A. ALLEN, Principal of Chester County Normal School. Philadelphia: J. B. Lippincott & Co. 1862.

This is the first of a New Geographical Series, composed on a plan somewhat new and yet generally received by the best educators as the best, and got up in best style of illustration, paper, type, and printing. If children are not attracted at first sight by the book to the subject of which it treats so admirably, and if their interest is not maintained to the last page, we shall be greatly mistaken. The author, as we know from many opportunities of hearing him, has an uncommon power in interesting teachers and parents at Institutes and Conventions, in the general discussions of the best methods of organizing and instructing schools; and in this little Manual he shows himself equally competent in presenting in detail, the elementary facts of one important study. The subject matter, and the order of the lessons, with the striking and appropriate illustrations of the great features and facts of each lesson, the tastefully constructed and printed maps, and the suggestions to teachers how to use the Skeleton Lesson on Objects, and the beautiful representations and brief descriptions of all the principal animals and plants, at the close of the book—make on the whole, the best Primary Geography we have examined. We commend it to the examination of school officers and teachers.

EXERCISES IN DICTATION AND PRONUNCIATION. By CHARLES NORTHEND, A. M. 350 pages. New York: A. S. Barnes & Burr. 1862.

Mr. Northend in this Manual supplies teacher and pupils with well-arranged selections of words, common, yet difficult to spell, for the method of dictation and written exercises—the true mode of acquiring the orthography of our language.

LEARNING TO SPELL, TO READ, TO WRITE, AND TO COMPOSE.—All at the same time. By J. A. JACOBS, Principal of the Kentucky Institution for the Deaf and Dumb. New York: D. Appleton & Co. 1862.

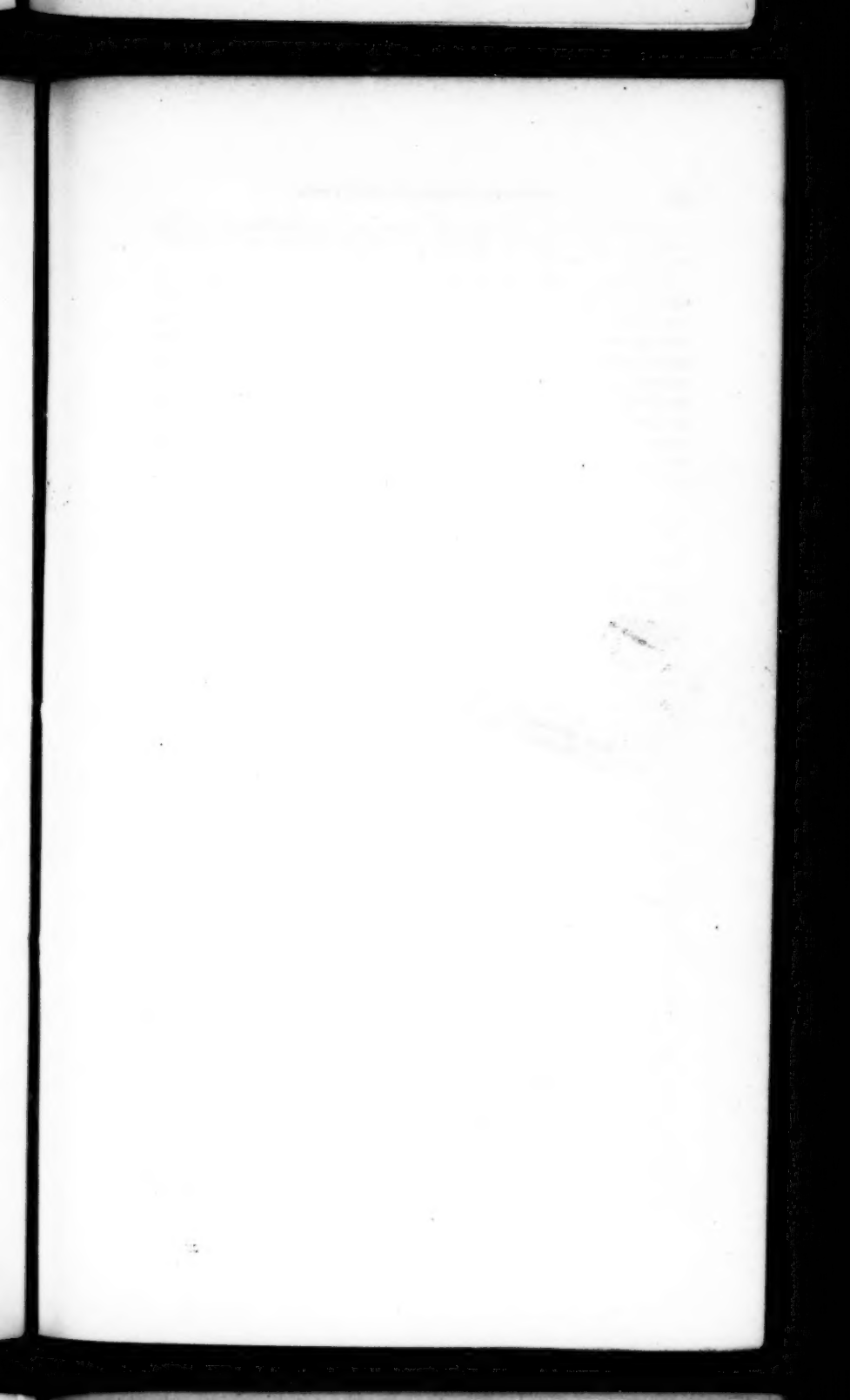
This admirable little book was originally prepared by the author for the instruction of deaf-mute children, with whom it is customary to teach all the operations specified in the title page at the same time. It is well known to those familiar with deaf-mute institutions that this class of children master to a certain extent the power of using the English language, much more speedily and thoroughly than speaking children. With them every word, every sentence, every lesson is carefully explained by the teacher and made to be thoroughly understood by the pupil, and this knowledge is tested by original composition at every step. Success depends entirely on this fundamental idea—that every word and every lesson is perfectly understood. To accomplish this, requires much pains and varied explanations on the part of the teacher, with much and varied practice of writing on the slate by the pupil. The selection of words which are the names of things which can be represented to the eye, or be seen and handled, and the combination of words into sentences which shall express qualities which the child knows belong to them, and then the printing and writing these sentences on the slate, constitute the entire secret of the better success in teaching the elementary use of our language to deaf-mutes. Mr. Jacobs has added to the usual illustrated vocabulary, introductory lessons for speaking children, sufficient to teach the sounds and use of letters and their combination into syllables, and has thus made an admirable First Book for home and school instruction. We have tried it with great satisfaction, and strongly recommend it to teachers and parents. The slate, and the constant practice of composition, it should be remembered, is essential to the success of Mr. Jacob's method, and in our judgement, of any other method of teaching the difficult orthography, as well as the easy and correct use in writing of the English Language.

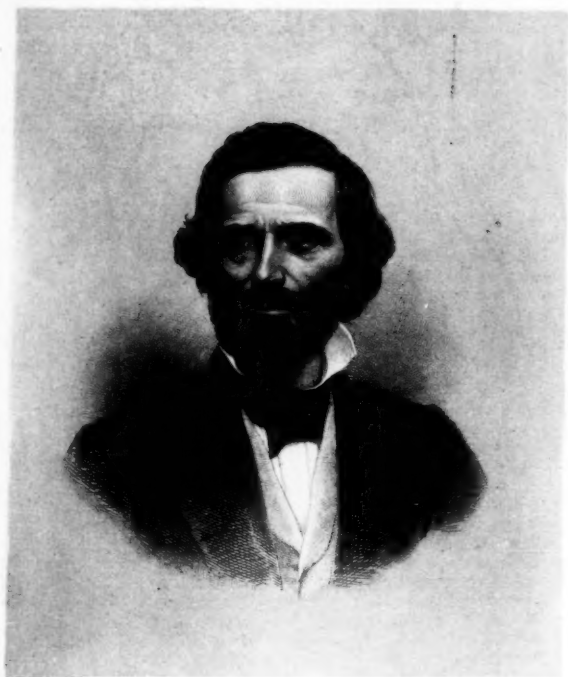
SELECTIONS FROM THE SCRIPTURES OF THE OLD AND NEW TESTAMENTS: with an Appendix, containing Prayers and Collects for the Use of Families and Schools. By Rev. D. S. HASKINS. Boston: E. P. Dutton & Co.

These selections consisting of one hundred and four pages from the Old Testament, and two hundred and forty pages from the New Testament, are arranged in historical order. The passages from the Gospels present the great events, teachings, and precepts of Christianity, in a simple and continuous narrative. The Prayers are brief, simple, appropriate and fervent; and on the whole there is as little to object to by denominational bigots, as in any volume for general religious reading, and use in schools composed of children whose parents hold to all sorts of creeds, as in any which we have examined. As a teacher, and for children, we should much prefer these Selections, to the reading of the Bible in course.

METHOD OF TEACHERS' INSTITUTES, AND THE THEORY OF EDUCATION. By S. P. BATES, A. M., Deputy Superintendent of Common Schools in Pennsylvania. 12mo., 75 pages. New York: A. S. Barnes & Burr. 1862.

This little Treatise is full of practical suggestions as to the organization, management, and instruction of that class of teachers' meeting now known as Teachers' Institutes. The author has had to do with all the details, and gives us here in a concise form the results of his observation, experience and study. Every thoughtful organizer of a class of teachers will introduce such modifications as the peculiarities of time, place, advancement in professional knowledge and practice of the members, and conditions of the local schools may require.





S. G. Howe.